

# BUSINESS WEEK

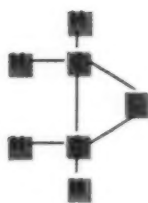


Make way for McNutt  
(The Trend, page 76)

PUBLISHED BY THE MCGRAW-HILL PUBLISHING COMPANY

UNIV OF MICH  
GENL LIBRARY  
ANN ARBOR MICH  
3-  
cop. 2

# CAN YOU MAKE THESE SPELL HEALTH?



These are a few of Nature's great building blocks—Carbon, Hydrogen, Oxygen, Nitrogen, Chlorine. They seem inexhaustible in their abundance. By working with them...in ever new combinations...chemical science is bringing better health to millions.

*Vitamins* contribute to health. And now, thanks to chemical science, America is assured a plentiful supply of precious Vitamin B<sub>1</sub>. Today, this vital material is created from *synthetic organic chemicals*! Using Ethyl Acetoacetate and Ethylene Oxide (whose structure appears at the left), pharmaceutical manufacturers can turn out Vitamin B<sub>1</sub> in huge quantities. Other vitamins, both A and D, are now being concentrated from cod liver oil through the use of Ethylene Dichloride.

Malaria a threat? Quinine was formerly essential in the treatment of this dread disease. In the face of a quinine shortage, chemical science has developed a *new antimalarial substance*... superior to the natural product in many ways. It can be manufactured in quantity from Ethyl Acetoacetate, Diethylethanolamine, and Acetone.

Facing an operation? Perhaps your surgeon will use Divinyl Ether, an *improved general anesthetic* made from Dichlorethyl Ether. Do you ever take *aspirin*? The present low price of this pain alleviator is possible because Acetic Anhydride used for making aspirin is produced economically by *synthesis*. Going to the dentist? He may give you "*Novocain*" anesthetic to avoid pain.

Diethylethanolamine is one of the important raw materials for making this local anesthetic. A *heart remedy* is made through the use of Ethylenediamine.

Thus synthetic organic chemistry, complementing the field of pharmacology, is helping to extend life...to combat health menaces...to alleviate pain. Constant research, keying in with the work of others in many fields, can be counted upon to produce other great developments in the future.

Ethyl Acetoacetate, Ethylene Oxide, Ethylene Dichloride, Diethylethanolamine, Acetone, Dichlorethyl Ether, Acetic Anhydride, and Ethylenediamine are among the more than 160 synthetic organic chemicals produced commercially by Carbide and Carbon Chemicals Corporation. These products...all of them created by synthesis from Nature's building blocks...include vast quantities of such essentials as chemical raw materials, solvents, plastics, and anti-freezes...which serve all industry.

*The great strides made in the field of synthetic organic chemistry by Carbide and Carbon Chemicals Corporation have been facilitated tremendously by technical assistance in the use of special alloys and metals developed by Electro Metallurgical Company and Haynes Stellite Company; by the special carbon products of National Carbon Company, Inc., and by the application of many engineering and processing methods perfected by The Linde Air Products Company—which companies also are Units of Union Carbide and Carbon Corporation.*

## CARBIDE AND CARBON CHEMICALS CORPORATION

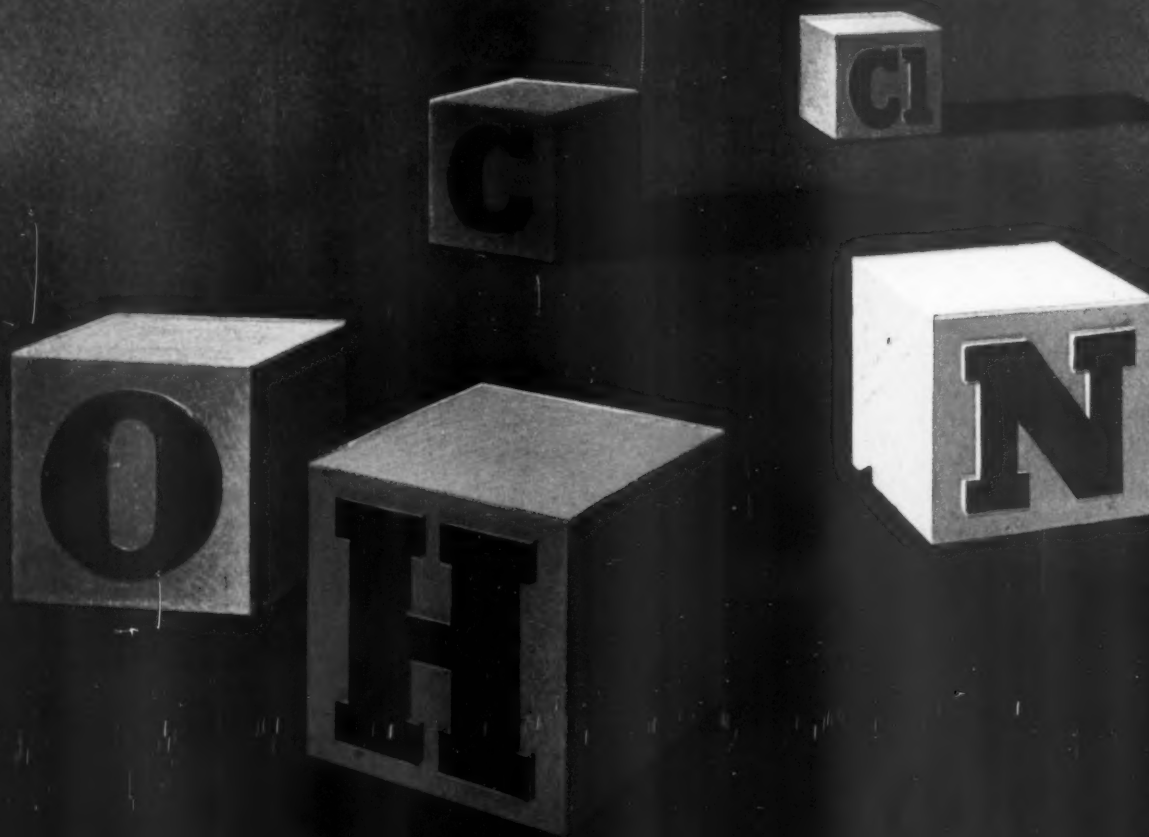
Unit of Union Carbide and Carbon Corporation

30 EAST 42ND ST.

UCC

NEW YORK, N. Y.

PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS



# WASHINGTON BULLETIN

## WHAT THE WASHINGTON NEWS MEANS TO MANAGEMENT

### Elections Bar All-Out Effort

V stands for votes as well as for victory. The specter of election day is warping and delaying unpalatable war measures—rationing, taxes, labor regimentation.

It haunts the White House, where the need for a sympathetic Congress next year is dominant. Roosevelt seems to be convinced that he will get more support in November from an electorate that hasn't yet realized what the war is going to do to its daily lives.

So he backs and fills on gasoline and rubber.

So OPA keeps its schemes for rationing of nearly every necessity tucked in the pigeonhole.

So wage stabilization is kept deliberately vague.

So the expected application of priorities to manpower was sidetracked.

And F.D.R. spares the lash on a Congress reluctantly poking at a terrifying tax bill.

### A Congressman's First Concern

It's in Congress, that the pressure is felt most persistently. Getting re-elected is the individual problem of every congressman. And Congress is seething with frightened, baffled resentment of its own inability to temper the war to its short constituents.

Congressmen are putting backstairs and frontstairs pressure on the executive to confine gas rationing to the East—pressure to which F.D.R. and WPB are, as always, at least a little bit responsive.

### Reprisals Against Administration

Sometimes Congressmen strike out blindly against the war rules that hurt back home. This is evident in Senator Ellender's bill to pass a miracle that would give everybody retreads (page 17), in diatribes against press criticism, and more significantly, in Congress's refusal to grant prompt authorization for subsidies to brace price ceilings.

Primarily the postponement of action on subsidies was a vote of no confidence in gas rationing and a protest against Henderson's flouting of patronage prerogatives. But it reflected, too, an uneasy awareness that here was one more grant of politico-economic power to the executive branch.

When subsidies are acted on again, an attempt will be made to eliminate some administrative discretion and substitute specific formulas governing distribution.

### Legislature's Waning Power

Congress's basic trouble is that the logic of war has accelerated the worldwide twentieth-century trend toward disappearance of the legislature, toward making government an administrative job.

Congressmen dare not refuse the huge appropriations and broad grants of power which the executive needs, though it moves toward abdication every time it approves a bill.

Not that Congress is due to become another Reichstag or that its present temper can be disregarded. It may not run the country any more, but it exercises a profound influence through checks on executive performance.

Thus the tax program is vital to inflation control, but it is doubtful that Congress will ever give the professional Administration economists their way on the scale of taxation.

• **Weapon of Investigation**—Congress has also found in the investigating committee an effective device for shaping executive policies. Government-by-investigation is not new, but it assumes increased importance as government-by-legislation diminishes.

The industrialists of WPB, the professionals in government like Henderson and McNutt will always be sensitive to the sort of inquisition that succeeded, over the last couple of months, in re-orienting the whole rubber-alcohol-sugar-grain program towards a better break for the civilian consumer and the farmer.

### Waiving Antitrust Laws

Waiver of the antitrust laws at Donald Nelson's option apparently is O.K. with Congress.

Collapse of the opposition to giving WPB such sweeping authority was foreshadowed this week by agreement of House and Senate conferees on the so-called small-business bill. This provides that Nelson need only consult the Attorney General before approving exemptions from the antitrust laws in circumstances where business concerns are directed to pursue measures which if undertaken on their own initiative might get them in bad with Trustbuster Thurman Arnold.

Arnold is disappointed but not alarmed. He expects some day to be able to say, "I told you so."

• **Typewriters a Case in Point**—Concentration of typewriter manufacture in two companies, which would undertake to supply civilian demand for all models, is

an example of the need for antitrust exemption, cited by Undersecretary of War Patterson.

WPB has ordered concentration into effect in the cooking stove industry (BW—May 23 '42, p16) but has no present intention of applying it to typewriters, with the possible exception of a few special models. Expected discontinuance of production early this fall was announced by WPB this week. Meanwhile, makers were authorized to maintain present rates of production for stockpile through July.

### For Small Business

Culminating a long series of attempts by Congress to cut small business into a larger share of war production, establishment of a Smaller War Plants Corporation in WPB soon will be a reality.

Heeled with \$150,000,000, SWPC will take prime contracts from the Army and Navy, break them down for distribution among small concerns, and finance plant and equipment if necessary.

Late amendments to the small-business bill, as it neared final enactment, require government procurement agencies to award contracts to small concerns or groups of concerns upon certification by WPB that they are capable of performing such contracts; also provide for award of contracts at higher unit costs than those of larger concerns.

### Labor Priorities—But Later

Paul McNutt's War Manpower Commission is getting off to a slow and stumbling start. So far it's just a Wednesday Afternoon Discussion Group, has made only the barest beginnings on getting organized.

In part this had been due to hazy lines of authority among Deputy Chairman Fowler Harper, Executive Officer Arthur J. Altmeyer, and the new Director of Operations, Gen. Frank J. McSherry. Gen. McSherry, formerly labor supply man for WPB, had been holding off taking the manpower job until he got an ironclad commitment as to his authority. His appointment may mean that the period of complete inaction is over.

Spectacular job-freezing announcements can be discounted for the present. Altmeyer is in the doghouse for starting the stories, which were based on nothing more substantial than inconclusive discussions within the commission about Detroit labor pirating.

Eventually, there's no doubt plants



<b>FORD</b> Pratt & Whitney Engines
<b>BUICK</b> Pratt & Whitney Engines
<b>CHEVROLET</b> Pratt & Whitney Engines
<b>NASH-KELVINATOR</b> Pratt & Whitney Engines Hamilton Standard Propellers Vought-Sikorsky Airplanes
<b>JACOBS</b> Pratt & Whitney Engines
<b>FRIGIDAIRE</b> Hamilton Standard Propellers
<b>REMINGTON-RAND</b> Hamilton Standard Propellers
<b>GOODYEAR</b> Vought-Sikorsky Airplanes
<b>BREWSTER</b> Vought-Sikorsky Airplanes
<b>CONTINENTAL</b> Pratt & Whitney Engines



# 10



## great manufacturers team up with UNITED AIRCRAFT



Engines, propellers and airplanes are among the items of equipment most vitally needed by our armed forces. The faster they can be made, the sooner this war can be won.



United Aircraft recognized this fact as far back as the summer of 1940, and started enlisting other manufacturers as emergency production sources. Under this program ten great manufacturers, whose names are household words, have teamed up to build several billion dollars worth of Pratt & Whitney engines, Hamilton Standard propellers and Vought-Sikorsky airplanes *per year*. This emergency production will be without profit to United Aircraft, which has gladly contributed its proven designs, technical experience and manufacturing "know-how."



This foresight is bringing results today. Precious months have been saved. A number of these manufacturers are already shipping engines and propellers in quantity, and the others are rapidly gearing up for production.



All this is in addition to United Aircraft's own vastly expanded production, which has increased many fold since 1940.

This teamwork typifies the cooperative spirit of American industry in this emergency, about which the *New York Times* says:



*"The whole manufacturing picture with regard to aircraft is an encouraging example of American industrial spirit rising to meet an emergency, with full cooperation and interchange of design, personnel and equipment between previously competitive elements within the aircraft industry and the automobile industry, and between the two great industries themselves."*

In enlisting the full-out efforts of these ten organizations, United Aircraft has helped to create what is probably the greatest manufacturing team the world has ever known.



### UNITED AIRCRAFT CORPORATION

EAST HARTFORD • CONNECTICUT



Pratt & Whitney  
Engines



Vought-Sikorsky  
Airplanes



Hamilton Standard  
Propellers



# WASHINGTON BULLETIN (Continued)

will be required to do all hiring through the U. S. Employment Service or the unions. But it won't come until labor representatives—due to be appointed this week—have given it their blessing. Even then, don't look for it except in a few critical spots until after election.

## Crackdown on Strikers

The War Labor Board and labor this week put real teeth in the national agreement to outlaw strikes for the duration.

NWLB got tough when confronted with an outlaw strike of 156 weavers in the Hathaway Mill at New Bedford, Mass. The strikers declined to honor a unanimous arbitration award in which their union, A.F.L. United Textile Workers, participated. The board served notice that it was prepared to follow the 1918 Bridgeport precedent under which all strikers would lose their draft deferment and would be blacklisted from all war jobs.

When the strikers, in spite of the board's ultimatum, still refused to go back to work, the A.F.L. notified the board that it was ready to provide substitute workers to resume operations immediately and would suspend or expel any of the strikers who declined to work or who interfered with work by the new employees. The company makes mosquito netting for the Army.

## Wanted: Men Over 45

Like private business, the War Production Board is having trouble with the draft. It's losing bright young men to the Army every day, and Donald Nelson is trying to replace them with eligible executives over 45.

At a recent meeting of the Commerce Department's Business Advisory Council, both Nelson and his assistant, Sidney J. Weinberg, urged members to send them the names of draft-exempt men who are available for WPB administrative work.

Walter White, assistant to R. R. Deupree, the council's chairman, is compiling the list.

## Toward a Supply Ministry

Plenty of men in the War Department have always believed that the old National Defense Advisory Commission—which left all administrative duties to the Services, merely offered guidance on policy—was the real McCoy in war organization. So it's natural that some men in the War Production Board should see something ominous in the Army's steady tendency to bring in civilian experts duplicating the WPB functions.

Appointment of four civilian advisers to Army Ordnance (picture, below) has started the talk going again.

● **Nelson's Policy**—Donald Nelson, who nominated many of the Army's various civilian experts, probably doesn't share his subordinates' worry about a seizure of power by a new Army-made NDAC. His constant policy of interweaving WPB and Service personnel suggests that he might welcome a merger of parts of WPB and the Army and Navy procurement branches into a single civilian-military "Ministry of Supply."

## Watching the Military

Just because of OPA rulings exempting Army and Navy sales from the General Maximum Price Regulation and machinery price order, don't assume that OPA intends to give up policing military business (BW—May 30 '42, p18).

Special orders governing each main type of munition—tanks, planes, guns,

etc.—are now being worked out. They will incorporate provision for making especially rapid exceptions, will be geared to cover cost-plus contracts. However, the Services intend to cut down on cost-plus in favor of fixed price contracts.

Motive of these munitions price orders is not so much to police the Army and Navy buyers as to put a brake on wage demands and to keep subcontractors under control.

## Purp Triumphant

WPB had to fight a hard battle to establish the principle that every major producer of everything must get his materials through the Production Requirements Plan. Yet it succeeded in bringing in even the munitions plants owned by the Army and Navy.

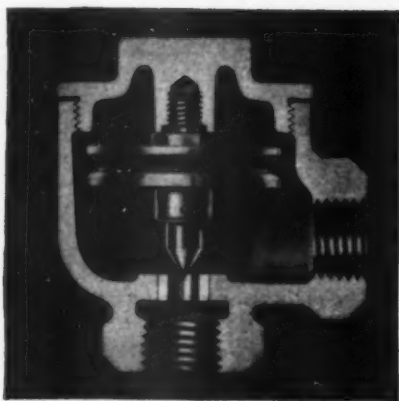
Important incidental advantage of giving Purp such broad grasp is the necessity for increased control over inventory accumulations. These provide the source of the manifold bootlegging operations in metals. Firms filing the Purp form, PD-25-A, have to report inventories. Furthermore, they pretty much have to



## INDUSTRY SITS IN

Significant first move of Maj. Gen. Levin H. Campbell, new chief of Army Ordnance, was to bring four industrialist-advisers to his council-table. With him below (left to right) are U. S. Steel's Benjamin Fairless, Chrysler's K. T. Keller, and Johns-Manville's Lewis H. Brown. Absent from this session was a fourth adviser, history's Bernard Baruch (left), whose service to war-planning Washington again begins to assume official status.





Webster 702HF Radiator Trap.

### To Save Critical Materials

## "Old Ironsides"

It took months of planning . . . But, Webster Engineers are ready with the "Old Ironsides" line of radiator traps and valves conforming with the simplification program of the War Production Board. Cast iron bodies and bonnets. Female inlet and outlet connections. Three sizes of traps— $\frac{1}{2}$ " for 200 sq. ft.;  $\frac{3}{4}$ " for 400 sq. ft.;  $1\frac{1}{4}$ " for 700 sq. ft. Two sizes of valves— $\frac{3}{4}$ " and 1", both in angle body—with wheel handle standard; with lockshield handle for institutions. The traps employ the time-tested Webster thermostatic element, a double diaphragm of phosphor bronze fully compensated for pressure. The valves use the proven Webster mechanism, fully meeting the specification for spring-retained packing. The "Old Ironsides" line uses the minimum of critical materials; saves machine-tool hours for direct war work; keeps steam available for heating war production plants, Army hospitals, etc. "Old Ironsides" traps and valves will be available on appropriate priority.

Essential repairs for existing Webster System installations are available to our customers on A-10 priority, under provisions of Emergency Plumbing and Heating Repair Order P-84 of the War Production Board. Orders should be limited to actual repair needs.

STEAM Heats  
America—

*at war!*

WARREN WEBSTER & CO., Camden, N.J.  
Pioneers of the Vacuum System of Steam Heating  
Representatives in 63 principal U. S. Cities : Est. 1888

## WASHINGTON BULLETIN (Continued)

report straight or the discrepancy will show up in later reports of their shipments.

• **Next Bite**—PD-25-A still doesn't reach the nonmanufacturing metal hoarder.

Expect a revision requiring reports of where outstanding orders for materials are placed. This will locate nearly all the hoards.

### Third Aircraft Center

Before the war, Southern California was the No. 1 center of aircraft production. Then with the inauguration of the auto-plane program, Detroit moved into the picture. Now another Middle Western metropolis is figuring on playing a stellar role in aviation.

That city already has a big General Motors airplane motor plant. Soon it will be able to boast a big Douglas plant, where the new four-engined cargo planes will be turned out for the Army (page 18). Then will come the gigantic plant, rivaling Ford's Willow Run, which Chrysler announced this week it will build for the manufacture of aircraft engines. (Incidentally, Willow Run will apparently still be able to claim the "world's largest" title, for unless plans are changed again its floor space will exceed the new Chrysler unit by 200,000 sq. ft.—a mere drop in the bucket when you're talking in terms of millions of sq. ft.)

• **Concrete Instead of Steel**—Chief feature of interest for building engineers in the Chrysler plan will be its use of concrete construction.

### Trucks But Not Railroads

While Secretary of Commerce Jones this week was boasting about the agreement of the 48 states to relax their individual restrictions on truck loads, lengths, and licenses (BW—May 24, p54), shippers were wondering what might be done to level some of the railroad barriers that similarly interfere with the movement of war goods.

There has been some talk of suspending state full-crew and train-limit laws, but it's talk that gets no encouragement from Jesse Jones. He regards such laws as a Pandora's box of labor troubles, and he doesn't propose to open it.

### How Much Depreciation?

A public utility that charges off too little depreciation may delude itself about its own net worth. Nevertheless, keeping its valuation high is an advantage for rate-making purposes. Conversely, charging too much depreciation deflates its rate base.

It's not surprising that the Federal

Power Commission should, from time to time, force a company to charge off more depreciation in order to wash down the rate base. This week, however, the FPC moved in the other direction (notwithstanding the protests of its most leftist member).

In the case of Hope Natural Gas Co., the commission held the depreciation reserve was double what it should be, ordered a cut. This writes up the valuation by \$16,000,000. Result is that an impending rate cut of \$5,000,000 can't be more than about \$3,600,000.

Commissioner John Scott wrote a long opinion in which he argued for acceptance of the larger depreciation, but the majority overruled him.

### Thaw for Coal

The coal, heating, and plumbing industries are vastly relieved by the delayed issuance of WPB's predicted (BW—May 16 '42, p16) order lifting its lid on the sale of coal-burning equipment for conversion of home oil burners. By an amendment to the original freeze order (L-79), home owners going back to coal can now buy grates, automatic stokers, etc., without priority ratings.

Oil burners may be sold only to replace other oil-burning equipment for the purpose of reducing oil consumption.

### Advertising Lid?

Limits on the amount of war profits which can be invested in advertising? Well, Canada has done it (page 44) and the U. S. Treasury is more than idly interested.

### Capital Gains (and Losses)

Judge Samuel Rosenman, the President's unofficial trouble-shooter, is now working out a plan for the over-all propaganda setup.

President Roosevelt has quietly ordered his White House personnel not to use official government cars except on official business.

Commerce Department is encouraging local wartime business clinics. Justice Department's Antitrust Division is just looking on—or askance.

In enlarging the personnel of local price and rationing boards, OPA will authorize a panel system whereby groups qualified by training and experience will discharge a board's several functions: automobile and tire rationing, sugar rationing, retail price control.

—Business Week's  
Washington Bureau

# FIGURES OF THE WEEK

## THE INDEX (see chart below)

### PRODUCTION

	\$ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
Steel Ingot Operations (% of capacity).....	99.3	99.6	98.6	97.6	99.2
Production of Automobiles and Trucks.....	21,500	21,600	22,015	93,495	106,395
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)....	\$38,460	\$43,524	\$40,840	\$17,308	\$15,229
Electric Power Output (million kilowatt-hours).....	3,323	3,380	3,305	3,339	2,955
Crude Oil (daily average, 1,000 bbls.).....	3,877	3,599	3,335	4,087	3,786
Bituminous Coal (daily average, 1,000 tons).....	1,890	1,913	1,916	1,615	1,721

### TRADE

Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars).....	79	79	84	92	89
All Other Carloadings (daily average, 1,000 cars).....	61	61	59	53	56
Money in Circulation (Wednesday series, millions).....	\$11,971	\$11,888	\$11,723	\$10,567	\$9,294
Department Store Sales (change from same week of preceding year).....	-2%	+5%	+13%	+11%	+21%
Business Failures (Dun & Bradstreet, number).....	210	230	199	203	221

### PRICES (Average for the week)

Spot Commodity Index (Moody's, Dec. 31, 1931 = 100).....	230.0	231.7	231.3	209.4	194.6
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)...	152.9	153.0	153.5	146.9	138.9
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)...	183.5	185.5	184.2	160.1	142.0
Finished Steel Composite (Steel, ton).....	\$56.73	\$56.73	\$56.73	\$56.73	\$56.73
Scrap Steel Composite (Iron Age, ton).....	\$19.17	\$19.17	\$19.17	\$19.17	\$19.17
Copper (electrolytic, Connecticut Valley, lb.).....	12.000¢	12.000¢	12.000¢	12.000¢	12.040¢
Wheat (No. 2, hard winter, Kansas City, bu.).....	\$1.13	\$1.13	\$1.15	\$1.14	\$0.88
Sugar (raw, delivered New York, lb.).....	3.74¢	3.74¢	3.74¢	3.50¢	3.44¢
Cotton (middling, ten designated markets, lb.).....	19.44¢	19.76¢	20.10¢	16.75¢	12.93¢
Wool Tops (New York, lb.).....	\$1.209	\$1.226	\$1.266	\$1.287	\$1.305
Rubber (ribbed smoked sheets, New York, lb.).....	22.50¢	22.50¢	22.50¢	22.50¢	22.03¢

### FINANCE

90 Stocks, Price Index (Standard & Poor's Corp.).....	65.0	63.8	61.5	73.0	74.7
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's).....	4.30%	4.29%	4.27%	4.29%	4.33%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's).....	2.85%	2.85%	2.84%	2.72%	2.81%
U. S. Bond Yield (average of all taxable issues due or callable after twelve years)...	2.33%	2.34%	2.38%	2.23%	#
U. S. Treasury 3-to-5 year Note Yield (taxable).....	1.03%	1.04%	1.02%	0.94%	0.71%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average).....	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate).....	1%	1%	1%	1%	1-1%

### BANKING (Millions of dollars)

Demand Deposits Adjusted, reporting member banks.....	25,511	25,395	25,358	24,452	24,311
Total Loans and Investments, reporting member banks.....	31,726	31,888	31,205	29,693	27,915
Commercial and Agricultural Loans, reporting member banks.....	6,557	6,613	6,726	6,602	5,673
Securities Loans, reporting member banks.....	938	917	836	964	1,022
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks...	17,180	17,210	16,405	14,735	13,996
Other Securities Held, reporting member banks.....	3,584	3,666	3,706	3,692	3,693
Excess Reserves, all member banks (Wednesday series).....	2,540	2,570	2,820	3,799	5,824
Total Federal Reserve Credit Outstanding (Wednesday series).....	2,584	2,578	2,443	2,284	2,231

\* Preliminary, week ended May 30th.

† Revised.

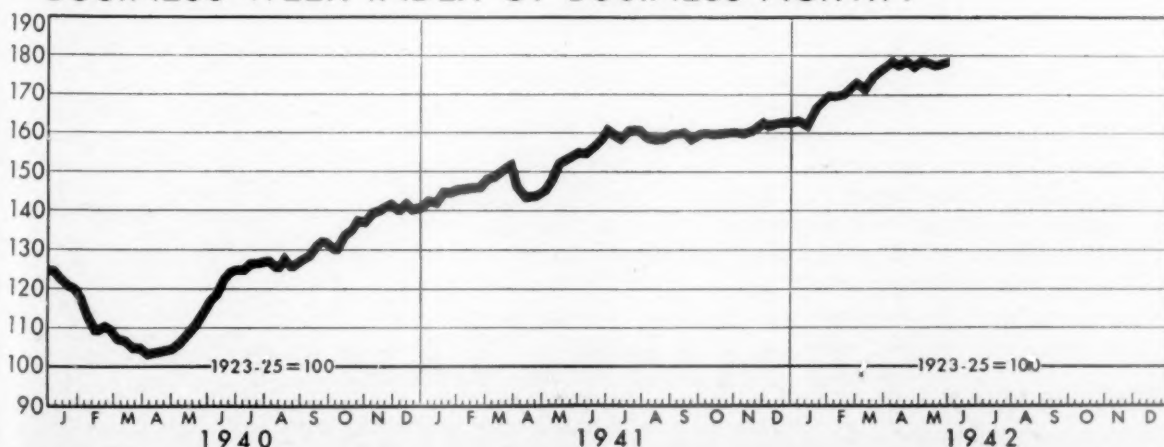
§ Date for "Latest Week" on each series on request.

‡ Ceiling fixed by government.

# Not available.

\*\* New series.

## BUSINESS WEEK INDEX OF BUSINESS ACTIVITY







## Not "*time out*" but TIME LOST when Hank walks to the window



**Lost "man-minutes"** add up to lost man-hours. Every time Hank walks to the window to see better it means precious time wasted—precious energy wasted—a bottleneck for production.

Many of these lighting bottlenecks are simple to correct. Often, you can make easy, inexpensive changes that will give you as much as *50% more light to increase production*, cut accidents and guard against costly eyestrain, such as:

1. Soap and water—on a regular cleaning schedule.
2. Right size bulbs in present fixtures.
3. Relocation of present lighting to fit new demands.
4. Supplementary lighting—for the most critical seeing operations, such as inspections.
5. Light colored walls to reduce light absorption; light colored finishes on machinery to increase visibility.
6. New incandescent or fluorescent installations, only if these other methods are inadequate.

We offer you the services of General Electric's staff of lighting experts. They will be glad to show you how your lighting can help to break production bottlenecks in your plant. See your G-E MAZDA lamp supplier or telephone your nearest G-E lamp office.

### What the G-E mark on lamps means to you

1. **MAZDA Research** . . . with all its developments of lamp efficiency and lamp economy.
2. **Sixty years of lamp making experience** gives you lamps that are uniformly dependable.
3. **More light at less cost.** Again and again while MAZDA Research has been finding ways to make lamps give *more light*, G-E MAZDA lamp prices have been reduced.



*Made to Stay Brighter Longer*

**G-E MAZDA LAMPS**  
**GENERAL  ELECTRIC**

# THE OUTLOOK

## Designs for Scarcity

New plans to conserve materials and to man the hard-pressed labor front mark further tightening of the war lines in industry. Air-power demonstration forecasts the future.

The Royal Air Force's sensational 1,000-plane raids on Cologne and Essen made the big headlines this week. But the day-to-day adaptation of American business to the war continued to make the news behind the headlines—both for business and the war.

Reflecting our onrushing progress into a wartime economy of scarcity, the War Production Board announced its Allocations Classification Plan (page 16); issued instructions curtailing new plant construction; cracked down on appeals for continuing suspended civilian-goods production; added 40 materials to its previous list of 133, which are in inadequate or barely sufficient supply for war and essential civilian needs.

### Controlled Hiring Ahead

Into the same pattern fit the War Manpower Commission's pending moves to halt labor pirating and freeze war workers to their jobs. War industry hirings are to be centralized through the United States Employment Service. Then, on the supply side the millions of workers offered draft deferment for holding critical occupations—mostly married men from now on—will be at USES disposal for placement in war jobs.

Of course, manpower mobilization must be made to match other keystones of labor policy (The Trend, page 76). But the WMC is moving especially fast now because events have thrust a manpower shortage upon us sooner than we feared.

### Ahead of Schedule

Industry's production achievements have exceeded anticipations, and employment, instead of declining because of conversion dislocations, has actually been rising. Now, with one-way acceleration ahead, some 2,000,000 additional workers may be in demand by the year-end.

Meanwhile, Gen. Marshall has said that by Jan. 1, 1943, the U. S. Army will total 4,500,000 soldiers, instead of 3,600,000. That implies a further drain of 2,000,000 men into the armed forces. And, to meet that need for 4,000,000 more workers and fighters this year, we have less than 3,000,000 unemployed.

Hours of work will lengthen, women and old and young men will enter the labor market, helping to close that gap.

But what makes the Manpower Commission's problem acute right now is the shortage already existing in war-production areas, side by side with labor surpluses in such nonwar-industry sections as New York City and the Pennsylvania anthracite field.

### More Price Orders Due

The Office of Price Administration is busy with details of administration and policy-making. Supplementary orders—to iron out competitive discrepancies existing in March, to even out profit margins (through both the "rollback" and the "roll forward")—are now trickling through.

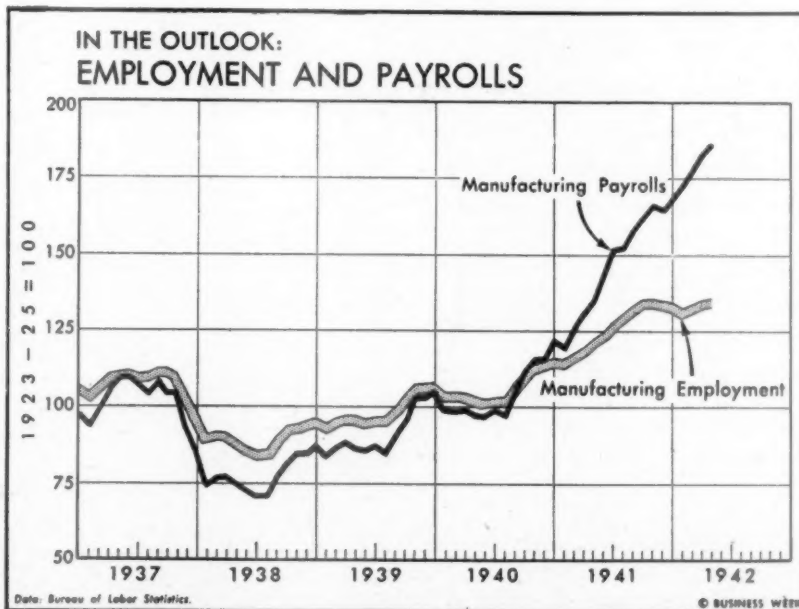
But new products and seasonal goods still present problems, and OPA must

tackle the mounting task of preventing hidden price boosts through the "rollback" of quality on the consumer, "upgrading" of products by abandonment of low-priced lines, and the changing of specifications on established merchandise. Next week, OPA takes its first big stride towards policing through a nationwide survey of retail stores to check the posting of ceilings on living-cost items.

### Aluminum for Planes

The reports of devastating destruction to German industry and mass migration from exposed Ruhr cities have raised again the question of the strategic importance of air power—and with it, implications for the length of the war. But whoever is right—the extreme theorists, who claim overwhelming air power as a single instrument of victory, or the established experts who look to air superiority as the prerequisite for a necessary land invasion of the Axis citadels—the attacks demonstrate operational know-how over vast air forces.

And the planes themselves will be coming off the production lines in an



Employment and payroll trends have diverged strikingly in recent months. Factory job rosters have remained stable, as continuing curtailment of civilian lines has offset the acceleration in arms activity. But payrolls have gone on soaring. Workers are putting in and are being paid for longer hours. And when these run over 40-per-week, overtime premiums compound the gain. Also, wage rates

have been rising. The result is that since the war began in September, 1939, manufacturing payrolls have doubled, thereby contributing 25% of the increase in national income payments. No wonder, then, that Price Administrator Henderson wants to damp down wage boosts: Every ten-point rise in the payroll index implies a \$1,000,000,000-per-year addition to the "inflationary gap."

ever-rising flood. The War Production Board points out that three of the seven new plants in the first aluminum-expansion program went into operation last month, and that the rest will be producing by August 1—all ahead of schedule. When the second expansion is completed, around the turn of the year, American aluminum output will exceed 1,000,000 tons a year, giving the United Nations an aggregate superiority over Axis capacity of not far from three-to-one.

What's more, aircraft are helping to solve the supply problem in this global war. Just this week Donald Nelson created a new committee to survey what may prove to be revolutionary possibilities in air freight (page 18). Use of cargo planes for speedy transport of essential materials already is mounting—along the Russian front, on the route to the Middle East, perhaps soon to replace the Burma Road traffic to China.

Even so, of course, our supply chiefs will have to rely primarily on ships for the bulk of our war effort. For, to duplicate the cargo carrying capacity of the 20,000,000 deadweight tons of merchant ships to be built in 1943, all and more of the 125,000 airplanes that are now projected for next year would have to be cargo craft.

## C.I.O. Schism

**When Lewis kicked Murray out of United Mine Workers, it climaxed one fight but simply marked beginning of another.**

A 30-year friendship was irreparably broken this week, and industrial peace hung in the balance. President John L. Lewis had bounced Philip Murray out of the vice-presidency of the United Mine Workers and both were rallying their supporters for the fight over labor leadership which has been in the cards for months now almost from the time Lewis was forced to surrender the C.I.O. presidency in accordance with the pre-election promise which he made in campaigning for Willkie.

● **Hard on Third Party**—In an intramural labor fight, it's usually the third party who gets the worst licks—and the third party is the employer. Rows, raids, and strikes are the standard tactics.

The last such large-scale battles grew out of A.F.L.-C.I.O. rivalry. The leader of the embattled industrial unionists who were then challenging the established labor order was John L. Lewis. And this time again it is Lewis in the challenger's corner. Murray is president of the C.I.O. and of the United Steelworkers (formerly the S.W.O.C.) because of Lewis sponsorship. Lewis put him in those spots because he had a high



Last week, Philip Murray heard John Lewis read him out of the United Mine Workers. This week, as Murray

convened the C.I.O. executive committee it was apparent that the feud, already old, was just really beginning.

opinion of Murray's ability and because he was sure Murray was "loyal."

Until the defense program got into high gear, the two men saw eye to eye. Then they began to take a markedly different line on public questions. It was because of this fundamental difference of opinion rather than because Lewis was just a "sorehead," as is popularly and erroneously supposed, that the cleavage deepened.

● **How the Fight Grew**—Murray was an "all-outter" for national defense; he worked closely with the old NDAC, with OPM, and with the White House. His collaboration got the C.I.O. positions of influence in the government. Lewis, an outspoken isolationist before Pearl Harbor, was bitterly critical of the defense program, its objectives, and its inspirer, President Roosevelt, who has been No. 2 man in Lewis's black book since 1937.

The first name on Lewis's hate list, by virtue of a five-year personal feud, is Sidney Hillman, president of the Amalgamated Clothing Workers, Roosevelt appointee as labor representative in the early defense set-up, and erstwhile Lewis collaborator. When Murray began co-operating with Hillman, Lewis began to cool toward his old friend.

● **Communist Backflip**—In his policy of noncooperation with the defense program—fighting Hillman, and needling Murray—Lewis had the full-throated support of Communist-led C.I.O. units. These groups were anxious to keep American aid to the Allies down to a trickle as long as the Nazi-Soviet pact was in existence.

But when Germany marched into Russia last June and Lewis did not abandon his isolationism, the Communist unionists turned on Lewis with an almost hysterical fury. They charged him with being a "fifth columnist," with betraying the interests of labor, and they began a systematic campaign to drum him out of the labor movement. ● **Effective Campaign**—Manufacturing incidents and blowing up small frictions into causes célèbres, they undoubtedly convinced many non-Communists that Lewis was playing a dangerous game. Even Murray began to doubt the motives of his former friend.

Lewis responded to the campaign by kicking every Communist sympathizer he could find off the mine workers' extensive payroll. He began his own campaign of indiscriminate denunciation of his hecklers. He started to identify Murray as an ally of his worst detractors.

● **Murray Pushed into Fight**—Murray, who wanted nothing more than to keep the C.I.O. intact and keep Lewis as a friend, was pushed into taking up the cudgels in the defense of his C.I.O. colleagues. This brought personal sniping from the Lewis camp, and eventually he had to start defending himself.

Last month, when Murray accepted the paid presidency of the Steelworkers (BW-May 30 '42, p. 59), John Lewis had his constitutional grounds for purging him from the Miners' officialdom. It was the inevitable dénouement of a situation which had grown beyond control of the two principals. And it is the prelude to a fight which neither willed.



# U.S. Takes Over from the Enemy

And domestic business will feel impact of Alien Property Custodian's operations at many points—for example, in required registration of all interests in foreign patents, not just Axis ones.

All U. S. citizens will be asked soon to report any interests held by them in foreign-owned patents. The reason is that Leo T. Crowley, Alien Property Custodian, in response to the President's instructions, is proceeding to take possession of alien-owned patents and doesn't wish to seize and license for use in this country patents already licensed to U. S. citizens. About 3,500 patents have been seized, an estimated 58,000 remain.

The register will cover American interests not only in alien but in all foreign-owned patents. The ramifications of patent ownership and licensing are so widespread that it is not always apparent where the trail leads.

• **No Record of Licenses**—A survey of foreign-owned patents registered in the Patent Office is in progress, but the APC has to obtain first-hand information regarding licenses held in this country because the patent laws don't require the filing of licenses.

Control over foreign-owned property, obviously an important instrument of economic warfare, will involve domestic business interests in many ways. The problem bristles with important questions of policy which have yet to be answered.

• **Treasury's Seizures**—As war engulfed one land after another, the Treasury froze the funds and other assets of blocked nationals. To date, the property of aliens and their governments that has been frozen by the United States adds up to about \$7,500,000,000—\$4,000,000,000 in short-term funds, including earmarked gold; \$2,000,000,000 in securities; \$1,000,000,000 in direct investments; \$500,000,000 in property of blocked nationals resident here.

Until Mar. 11, the functions performed in the last war by the Alien Property Custodian (an office abolished in 1934) were being handled by various officials of the Treasury and the Department of Justice. Then, in line with provisions of the First War Powers Act of last Dec. 18, the President revived the office of Alien Property Custodian and appointed Crowley.

• **Custodian's Authority**—The President's order provided that any property or interest therein of any foreign government or national should "vest" in the Alien Property Custodian whenever that official should so direct. This authority of the custodian extends to property previously subject to control by the Secretary of the Treasury.

Whereas the Treasury has no title to

the assets under its control, the Alien Property Custodian may take over the property and administer it, liquidate it, sell it, or otherwise deal with it in the interest of the United States.

• **Demarcation**—While the dividing line of responsibility between Crowley and Morgenthau has not yet been clearly defined, the broad arrangement—by tacit agreement—seems to be that the Treasury will continue to supervise frozen funds and financial transactions. The Alien Property Custodian apparently will be directly concerned with controlling business enterprises, patents, trademarks, and copyrights.

Before Crowley's appointment, the Treasury had licensed operation of about 3,000 going concerns. More than 300 of these have been closed up since the United States entered the war. Where essential work was being done, the Treasury installed supervisors to see that things were run properly. The Treasury extended its authority to the sale of products.

• **New Management**—In only one instance did the Treasury take over a controlling interest and install new management. That was done in the case of



Of the \$7,500,000,000 in foreign-owned property now under the guarding wing of Leo T. Crowley, the value of properties owned by Japanese (\$150,000,000) and Germans (\$100,000,000) are, nationally speaking, among the smallest amounts. Properties of the Netherlands, including those in the East Indies, are the largest (\$1,800,000,000), with Switzerland (\$1,500,000,000) listed as second.

General Aniline & Film Corp., control of which was turned over to Crowley at his direction last month.

Crowley's lawyers are puzzling over the legal status of his job. The First War Powers Act, in amending the Trading with the Enemy Act of 1917, left various provisions of the old statute on the books, with the result that the custodian apparently has the choice of operating under either or both.

• **"Vest" vs. "Seize"**—A big question is whether the authority to "vest" that is conferred by the new law differs from the power to "seize" which was conferred in the last war. Whether "vest" covers everything from mere supervision to outright confiscation will have to be decided—by the custodian in the first instance, by the courts eventually.

Another big question: Once the property has been vested, does the Alien Property Custodian have the power to return it to the former holders? In other words, are we playing for keeps? Under World War precedents, the property could not be returned save in cases where it was established that it was not actually enemy-owned. In Canada, the custodian possesses authority to return property which has been vested.

• **As Regards Patents**—In ordering Crowley to take over thousands of foreign-owned or controlled patents recently, the President emphatically stated that he did not intend to permit the patents to "slide back" to their former owners. During the last war the APC seized about 17,000 enemy-owned patents and copyrights. Many of them were sold under arrangements intended to insure permanent exclusion of hostile alien control, but the Department of Justice and several congressional committees charge that in the years between alien interests have gradually recaptured a substantial degree of influence over various lines of business in this country. (In 1939, the Temporary National Economic Committee brought out that 23,000 patents had been granted to residents of Germany, Italy, and Japan from 1930 to 1937.)

If the Alien Property Custodian is in any sense a trustee for the original owners, then the question arises: What are his obligations with respect to protection of capital value and the earning of income?

• **Selective Procedure**—Another problem is whether it is up to the custodian to handle all enemy assets or only certain types, and whether all alien property of a given class can be covered by a blanket order. So far, the Alien Property Custodian has been selective, with an eye on war production. Thirteen orders issued to date vest in him:

- (1) Patents involved in the Standard Oil-I. G. Farben alliance.
- (2) I. G. Farben's stock interest in Magnesium Development Corp., jointly owned

by Farben and Aluminum Co. of America.

(3) Stock of the Luscombe Airplane Corp., from German citizens resident in this country.

(4) Stock of the Shering Corporation, a German-controlled pharmaceutical firm.

(5) I. G. Farben's stock interest in General Aniline and Film Corp., by transfer from the Treasury Department.

(6) Pending patent applications on behalf of I. G. Farben, of which there are about 300.

(7) Stock of Steel Union, Inc., a California corporation organized in 1934 to act as selling agent for Stahlunion-Export, the export subsidiary of Vereinigte Stahlwerke, the German Steel Trust.

(8) Five copyrights, copyright applications, and claims owned by German nationals.

(9) Stock control (535,000 shares, 77.24%) of American Bosch Corp. (reasons stated for taking control are the company's important role in war production, its former German ownership, and its dependence upon patents which the Robert Bosch Com-

pany of Germany controls throughout the world).

(10) Capital stock of Rare Chemicals, Inc., and Boehringer Corp., both of New York, owned by German interests.

(11) Eighty Japanese patents in the electrical and mechanical fields.

(12) Italian-owned bonds of Crescent City Laundries, Inc., New Orleans, now in process of reorganization.

(13) Six hundred patents owned by German and Italians, including many heretofore owned by Junkers and Arado, large German plane makers; patents owned by Robert Bosch in the ignition field; many others in radio television and aircraft instruments.

• **Fine Point of Policy**—Assuming that a program for the general vesting of enemy assets is adopted, it will become a nice question of policy whether the assets of the over-run countries such as Norway, Denmark, Belgium, Netherlands, Yugoslavia, Greece should be regarded and dealt with as "enemy" or "ally of enemy" assets.

## Material by Code

Formal issuance of new Allocation Classification plan clears some misunderstanding on latest priority system.

Formal issuance this week of WPB's Allocation Classification System partly cleared the confusion in industry which resulted from leakage of premature and fragmentary information about it. The system requires every producer, whenever he places an order for anything, to attach to it a code number (box, below) identifying the class of use to which the material ordered will be put, effective July 1.

• **Change in Plans**—Over the weekend, WPB decided to put the system into operation in one swoop, covering all

## WPB's Allocation Code—Industry Gets Its Numbers

Every manufactured product falls under one or more of these allocation classification code numbers. Every order placed by a producer after June 30 must carry a code number. The numbers are not priority ratings, are

not in order of importance. Their whole purpose is to tell the War Production Board where orders for raw materials are coming from, enable it to allocate materials intelligently among the orders placed.

### MILITARY

#### Class 1.00—Aircraft

#### Class 2.00—Ships

- 2.10 Battleships
- 2.20 Aircraft carriers
- 2.31 Escort vessels (aircraft), combat, loaded transports, and combat loaded cargo ships
- 2.32 Patrol vessels
- 2.33 Landing craft
- 2.40 Light cruisers
- 2.50 Destroyers including escort vessels
- 2.60 Submarines
- 2.70 All other types of naval craft
- 2.80 Repairs to all naval vessels
- 2.90 Ships for Maritime Commission

#### Class 3.00—Vehicles

- 3.10 Tanks and armored vehicles
- 3.20 Vehicles, except rail, all other military

#### Class 4.00—Armament and weapons

- 4.10 Aircraft
- 4.20 Antiaircraft, barrage balloon equipment, antiaircraft searchlights
- 4.30 Artillery including railway and seacoast
- 4.40 Fire control, all types
- 4.50 Machine guns—ground, hand arms
- 4.60 Naval, all types
- 4.70 Tanks and antitank
- 4.90 Weapons of all other types

#### Class 5.00—Ammunition

- 5.10 Ammunition, 20 mm. and above
- 5.20 Ammunition, small arms below 20 mm.
- 5.30 Bombs, depth charges, mines, and torpedoes
- 5.40 Propellants, chemicals, explosives
- 5.50 Pyrotechnics

#### Class 6.00—War equipment and supplies

- 6.10 Chemical warfare equipment and supplies
- 6.20 Clothing, general supplies and subsistence
- 6.30 Mapping, map reproduction and photographic equipment

#### 6.40 Medical equipment and supplies

- 6.50 Military field construction equipment
- 6.60 Military radio and wire communications, and Radar or electronic equipment

#### 6.70 Military railway including rail vehicles and bridge equipment

- 6.80 Supplies and equipment—all other military types
- 6.90 Supplies and equipment—all other

#### Class 7.00—War facilities

- 7.10 Air fields, bases, camps, coast defense, depots, forts, navy yards, posts, stations—continental U. S. A.
- 7.20 Air fields, bases, camps, coast defense, depots, forts, navy yards, posts, stations—outside continental U. S. A.
- 7.30 Munitions manufacturing facilities and proving grounds—owned by the government
- 7.40 Panama Canal
- 7.50 Shipyards and ship repair facilities—government owned

### INDUSTRIAL AND CIVILIAN

#### Class 8.00—Raw materials

- 8.10 All metals
- 8.20 All chemicals
- 8.90 All other raw materials

#### Class 9.00—Power, light, and heat

- 9.10 Electricity
- 9.20 Petroleum
- 9.30 Coal and coke
- 9.40 Gas

#### Class 10.00—Transportation

- 10.10 Railroad, including urban and inter-urban
- 10.20 Automotive
- 10.30 Roads, streets
- 10.40 Water transportation, including construction of privately-owned ship-yards
- 10.50 Air transportation
- 10.90 All other transportation

#### Class 11.00—Communication

- 11.10 Telephone
- 11.20 Radio
- 11.30 Telegraph
- 11.90 All other communication

#### Class 12.00—Public health and safety

- 12.10 Sanitary and health systems and facilities
- 12.20 Health equipment and supplies, including personal care
- 12.30 Public safety equipment and supplies

#### Class 13.00—Agricultural equipment and supplies

#### Class 14.00—Industrial food processing

#### Class 15.00—Wearing apparel

#### Class 16.00—Equipment and supplies for household use

#### Class 17.00—Education and information

- 17.10 Printing and publishing
- 17.20 Education

#### Class 18.00—Recreation and amusement

#### Class 19.00—Equipment and supplies for office use

#### Class 20.00—Machinery and equipment for industrial use

- 20.10 Metal-working machinery
- 20.20 All other—including mine, construction, special, and general industrial

#### Class 21.00—Building construction

- 21.10 Buildings for manufacturing and commercial purposes
- 21.20 All types of dwellings
- 21.90 All other types of building

#### Class 22.00—Operating supplies and building repairs and maintenance

#### Class 23.00—All other end uses (excludes all sub-assemblies and parts going into finished products coming within the other classes)

materials. Earlier the intention had been to apply it first to copper and alloy steels (BW—May 30 '42, p17). Formal letters and instruction sheets were prepared in the copper and steel branches of WPB. These were never officially issued. Nevertheless, copies began circulating among business men, and they played hell.

Some suppliers apparently got the idea the scheme was already in effect. Others were simply getting ready for the day when it was to come. In either case, what they did was to refuse orders unless they carried code numbers. Firms which were scrupulous about the rule that priority-rated orders must be accepted took the orders but refused to schedule them. Most customers, of course, had no idea how to put a code number on an order. Even Army and Navy procurement officers were in the dark—heard for the first time about Allocation Classification when suppliers started turning down orders.

● **Everyday Products Suffer**—Manufacturers of standard items going into a multitude of uses were especially hard hit. They found they couldn't place an order until they had gone back to their own customers to have outstanding orders coded.

Further to add to the confusion, the copper and steel branches were using different sets of code numbers. There are nasty rumors that some of the misleading advance information was deliberately circulated by persons trying to raise the price of copper on the bootleg market by making it hard to get copper legitimately.

Definite establishment of July 1 as the effective date will clear up most of the confusion. It gives manufacturers who make parts rather than end products a month to get together with their customers and get code numbers attached to outstanding orders.

● **Some Difficulties Remain**—There's still a possibility of trouble in the requirement that orders be coded immediately if they call for delivery after July 31. If strictly construed, this would mean that some manufacturers would have to stop placing orders until they get their own backlogs identified by their customers.

All producers are covered by ACS. Orders placed by retailers and distributors are exempt. Thus, by August 1, WPB will have a clear identification of the flow of materials from the primary producer right down to where the goods move off the final assembly floor.

Complicated as the Allocation Classification plan appears, it is really fairly simple in its application. Simplest case is that of a manufacturer of some finished product—machine guns, clothing, jewelry, or the like. He simply checks over the list of code numbers (see table, page 16) finds that he fits in class 4.50, 15.00, or 23.00, as the case may be. Then he just writes this number on every



## TO ROLL AGAIN?

In the mountains of scrap tires such as Firestone's 20-acre accumulation (above), Congressmen see a glimmer of hope for the motoring public as well as the auto and tire repair shops. This week legislation, sponsored by the Small Business Committee, was introduced in the Senate proposing to

keep "serviceable" tires on 20,000,000 automobiles for the duration by using only 3,500 tons of crude rubber from the estimated 750,000-ton stockpile. By the use of only two oz. of crude rubber per tire, reclaimed rubber can be employed for retreading under a new process. The plan calls for regular inspection of all tires and a turn-in of old tires for retreads.

order he places—for anything from bar steel to soap for the washroom.

● **Identifying the Purchaser**—A slight additional complication is that he must identify the type of purchaser to whom he sells—USA for Army, USN for Navy or Maritime Commission, LL for lend-lease, FP for other foreign purchasers, DP for other domestic.

If the manufacturer makes products fitting several classifications, he must show all classifications on his purchase order, indicating the percentage of the goods being bought which will go to each class. If this last is impossible, he may simply indicate the percentage which sales of each class bears to his total sales.

For example, a clothing manufacturer is devoting 75% of his output to men's suits, 25% to Navy parachutes. His orders for wool would be coded DP 15.00. Orders for silk would be coded USN 6.80. However, an order for thread might have to be coded 25% USN 6.80—75% DP 15.00.

● **Codifying the Codes**—More complicated is the case of a man manufacturing semifabricated items or parts which enter into the products of other manufacturers. Before he can place an order, he must go through the orders he receives from his customers and find out where his product is going. Then he codes his

own orders according to the percentages of each code in the orders he receives.

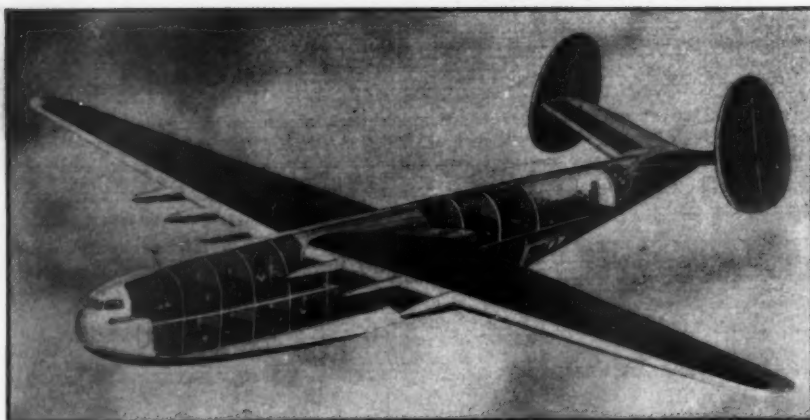
Thus a manufacturer of screws might want to buy screw machine stock of a certain alloy. He finds that 18% of his orders for screws of that alloy are coded USN 6.60, 10% are coded USA 6.60, the rest is DP 11.20. He would code his order for bar stock accordingly.

In this fashion, orders move along toward the final raw material producer carrying with them the identifying code numbers. Orders for ingot received by a steel mill might show percentages of every one of the 23 classifications. WPB can use these percentages in working out programs for allocation of iron.

● **Special Categories**—Two important exceptional cases are Class 21 and Class 22. Orders placed for any building project are coded 21 no matter whether it is a clothing factory or a telephone central exchange. Sole exception is military buildings which are coded 7.

Also, manufacturers of operating supplies and building repair and maintenance materials code the orders they place 22, no matter what the code numbers on the orders they receive. Thus, if a tank factory orders some screw drivers, it would code its order USA 3.10. But the screw driver manufacturer would code an order for cold rolled steel DP 22.00.





Past the dream stage is the six-engined, 250,000-lb. leviathan which the Glenn L. Martin Co. expects to build for sky

freighting. The new ship will be able to carry 102 passengers plus 33,000 lb. of baggage, mail and cargo.

## Tomorrow: Flying Freight Trains

But cargo-carrying gliders, hooked in series to a tow plane, will be only one feature of the postwar revolution in aviation, revising transportation values. Giant new ships already designed.

Last year, the Army got into the air freight business in a big way, flying a significant tonnage of equipment and supplies in remodeled transport planes, operated over the Army's private airline (BW—Apr. 12 '41, p44).

Last month, to expedite and expand that service the Army took over half of the equipment which the airlines have on hand and all of what is on order (BW—May 23 '42, p14). Last month, too, came reports of how planes had been used to evacuate tons of equipment and thousands of troops from conquered territory in China and Burma.

Then last week, Curtiss-Wright Corp. formally celebrated the inauguration of mass production on the first plane specifically designed for Army freight service—the C-46 or "Commando," a twin-engined, 20-ton model.

• **An Earnest of the Future**—So much for the record—a record which is chiefly significant not in terms of the accomplishment that it measures but in terms of the plausibility which it lends to the almost fantastic blueprint for the future of air transportation which the Army and Navy are now mapping out.

Already on order are four-engined, 70-ton cargo ships that are roughly as big as the Flying Fortress. And Glenn Martin has announced that he is working on plans for 125-ton behemoth of the skies whose six engines would carry 50,000 lb. of equipment through the skies at speeds of 200 to 230 miles an hour. Meanwhile, another company is reported to have completed already the mockup or wooden dummy of a ship that would dwarf the Martin monster—

a 160-ton model which could move whole battalions across the continent overnight.

• **Wanted: Speed, Invulnerability**—These are not figments of a Jules Verne imagination. They are solidly engineered plans for planes that sober military minds in Washington regard as certain if the war lasts three years longer. And in that certainty they find considerable gratification, for they are impatient with ships that can wallow across the ocean only at the rate of two or three round trips a year, exposed always to the unrelenting menace of the submarine.

But the development of flying freighters is only one part of the revolution being wrought in aviation by the war. Other developments, necessarily blanketed by censorship, presage a new order of transportation for the postwar world.

• **New and Cheaper Materials**—For instance, planes of the future will not be "all metal." Their structures will be composite, with each material in its proper place. Aluminum, magnesium, beryllium, steel, wood, and plastics will be the primary constituents, although as size increases, there will be justification for the use of steel alloys. Necessity has shown manufacturers where to use the plastic bonded plywoods most effectively. Beryllium is a still small voice, but war necessities will make it grow fast. Under any circumstances, postwar planes will be built of more plentiful and cheaper materials, drastically reducing both the original cost and the upkeep.

• **"Rocket Ship" Advance**—Not the least dramatic development arising out of the

war is the steady progress which is being made toward translating into reality the Buck Rogers dream of a rocket ship—only the term "rocket ship" is anathema to any engineer working in the field of jet propulsion. A jet-propelled plane has already been flown in Italy, but that trial flight came the week of Pearl Harbor, and reports of it were virtually obliterated by the war news. Jet-propelled engines may or may not prove effective power plants in war-planes, but, if nothing else, they may well be used as a source of emergency power—auxiliary engines which the pilot could touch off when he needed a sudden burst of speed in aerial combat.

For the postwar world, the chief significance of the jet-propelled engine lies in its probable utility in the launching of gliders, which, when they were once air-borne, would be towed by planes, perhaps in series that would constitute veritable flying freight trains. The auxiliary takeoff power might be installed only in tow-plane or in the gliders, as well.

• **Enter the Flying Freight**—Major stumbling block in the development of efficient glider transportation has always been the problem of how to get the motorless ships and the tow plane aloft when they were all loaded. Some form of assisted takeoff has been required. Experimentation with jet propulsion and catapult launchings, now vastly accelerated by the war, promise an ultimate solution.

In the conception of flying freight trains for the postwar world there is little that need strain credulity, for the airplane-towed glider is a reality today, a reality grimly demonstrated by the Germans in Crete. As a matter of fact, the technique was perfected in the United States more than ten years ago, for, contrary to popular belief, this country has not been asleep to the possibilities of motorless aircraft. Continued research at the gliding center in Elmira, N. Y., and more recently at other fields such as Frankfort, Mich., and Arvin, Calif., has contributed to steady advancement in the technological and operational aspects of gliding.

• **Guiding the Glider**—The soaring glider is one of the most efficient machines devised by man. Once it is launched, it can gain altitude, carry its load aloft for hours, and travel great distances by skillful use of thermal air currents. Of course, its usefulness, like that of a sailboat, is consequently limited by air conditions, but if it is tied behind an airplane, the motorless vehicle is provided both with sure direction, regardless of air currents, and with the slight additional energy which it needs, once it is air-borne, to carry a sizable load.

Since shape, not size, is the determining factor in airplane performance, soaring gliders can be built as big as our present-day transports and towed in

series, without any appreciable sacrifice in the efficient performance of the tow-plane as a freight-carrier. Such a flying freight train, pulled by one of tomorrow's mammoth models, could start from New York and release gliders at Scranton, Buffalo, Erie, Cleveland, and Toledo, with the big tow-plane landing its load at Chicago—all at a ton-mile cost figure roughly comparable to that for motor truck transportation.

• **Planes for Home Garages**—The most obvious postwar development in aviation is the certain blossoming of private flying. The vast public interest in aviation, stimulated by the war, the expert pilot training provided for thousands of young men, the reduction in cost and improvement in safety accomplished by the manufacturers—all these factors will combine to put small, inexpensive planes in hundreds of thousands of private garages. First step in that direction will probably be the establishment of many plane-rental and fly-it-yourself services.

Remarkable progress is being made in the development of rotary wing aircraft of several types. Vertical rising, hovering, and vertical landing are now accomplished feats (BW—May 17 '41, p. 50), and the solution of such problems as simplifying the controls is within easy grasp. Useful for convoys today, these craft will be running household errands tomorrow.

As for the more conventional craft, stall-proof, spin-proof planes, like Engineering Corp.'s *Erco Coupe* (BW—Jun. 8 '40, p. 45) and General Aircraft's *Skyfarer* (BW—Jun. 7 '41, p. 26) await only a loosening of priorities to become available in quantity. The already simplified control system in these planes will be even further simplified, probably in the direction of the automobile system, and like the automobile many of these small planes will be able to travel from airport to garage along the highway, thanks to a folding-wing feature like that pioneered five years ago in the *Roadable Autogiro* (BW—Feb. 20 '31, p. 44). Laminar flow wings, so shaped that the passing air clings to them more tenaciously, are already being used in the war and in peacetime they will save lives and provide more efficient transportation.

Not all of these developments in aviation—private planes, flying freighters, flying freight trains—will materialize the day war ends; some of them are years and years off, but all of them are inevitable. Hence, when normal commerce does resume, the business man must be prepared for a radical revision of all the standards of value which heretofore have been governing in the field of commerce and transportation. Today's planes may have an insignificant capacity, compared with that of a railroad freight train or a



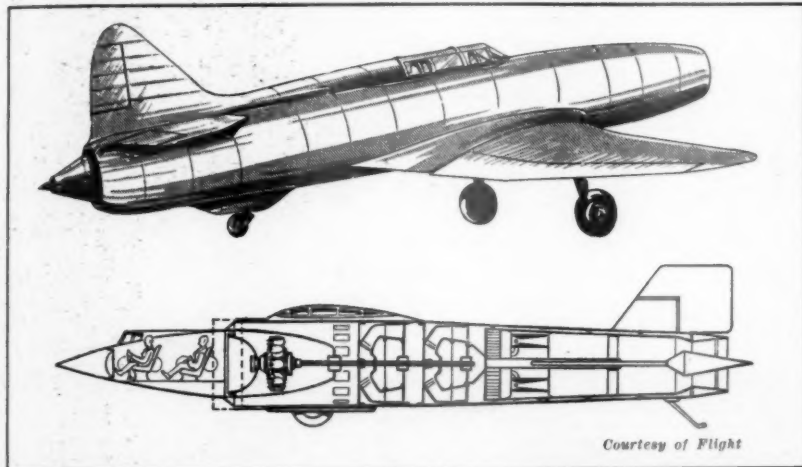
### LITTLE BUSINESS HONORED

Anyone who doubts that the war-production efforts of the little business man are not appreciated should consider the Navy "E" award to the *Moto-Truc Co.*, a tiny \$6,000 concern in Cleveland, for its work in building electrically-driven lift trucks. The entire day shift including the firm's president, J. P. Hoffman (right, standing) gathered for a celebration photograph.

ship, but tomorrow's planes may be ten times larger, and that capacity may be multiplied half a dozen times by the use of gliders. Furthermore, the plane will always have its big advantage of speed.

• **Tomorrow's Trade Routes**—The potential efficiency of air transportation, operating without roads or tracks and unhampered by water resistance, has not yet been approached. The best indication of what that potential might be is supplied by the operations of the Air Force Ferrying Command, which for more than a year has been moving a steadily increasing tonnage of men and materials across the Atlantic at steadily increased speeds. (The latest transatlantic record set by one of our big bombers is 400 minutes.)

Wartime communication lines have always marked the trade routes of the future, and this war is no exception. Tomorrow's trade routes lie unquestionably through the stratosphere—to London, overnight from New York; to Brazil, where Senor Paulo Sampaio urges that we send our present cargo planes to get natural rubber out of the 2,000,000 square-mile Amazon jungle that cannot be effectively served by other means of transport; to the Far East; to the remotest corner of the world which tomorrow will be separated from New York or San Francisco only by a few days of flying time at the most.



Courtesy of Flight

Nearest thing yet to Buck Rogers' rocket ships is the Caproni-Campini jet-propulsion plane which made a successful test flight in Italy last December. Lacking propellers of any kind, the jet propulsion plane's construction features a novel duct which runs along the entire length of the fuselage. In the forward portion of the duct a blower driven by the engine produces a pressure increase which creates an airflow toward the aft portion of the duct. This flow first cools the engine, then joins the exhaust gases with a resultant expansion as it

nears the exit nozzle. The expansion may be further intensified by injection of fuel which is ignited. The propulsion thrust is thus created by both the engine-blower and the expansion of air and gases situated behind it. Propulsion is controlled by means of a cone at the stern, arranged to slide longitudinally at the end of a shaft. Varying the jet orifice changes the speed. The cutaway design (lower) illustrates the original Campini design for jet-propelled airplanes. The upper sketch represents the improved type which flew last year.

# Dobbin's Day

Oat burners of yesteryear come back strong—and so do buggy makers and dealers in old harness and carriages.

A combination substitute for rubber and gasoline is a runaway success on eastern gas-rationed, tireless estates. Base of the process is oats. The user feeds oats to a horse, hitches the nag to a buggy, and says "giddap." Result is that passengers and light freight cover the highways at a 100% saving in gas and rubber.

● **Carriage Makers Cheer**—The scheme apparently works—at least the Standard Vehicle Co. of Lawrenceburg, Ind., describes current business as unbelievable, which means more runabout, top buggy, surrey and cart orders in the last five months than for the last several years put together.

For decades Standard has lived mostly on carryall and buggy business from Louisiana planters and back-country folk; now the sudden demand for gasless and tireless vehicles spreads all the way across the country and is echoed in Puerto Rico and the British West Indies.

Builders of such vehicles are so few and small that the new products can't touch the rims of the market. (Any recent year topping \$100,000 has been a good one.) By far the biggest trade is in used equipment. In New York City, the Miller Harness Co. is rounding up, in the face of white-hot competition, dusty carriages and broughams from barns throughout the Northeast and moving them out to customers who are ordering—sight unseen—by wire, phone and letter.

● **A Harness Problem**—As big a problem as the buggies themselves is harness to suit the light traps. A year ago the Miller company bought 1,000 sets of new double buckboard harness from the Army (relic of the last war), managed to sell about a dozen sets a month by cutting them into singles and dumping the brass trimmings at junk prices. Last month the company sold more than 400 sets and wonders where it can get more in a hurry.

Finest vehicle job on the Miller floor at the moment (buggies are moving off in a matter of hours) is a Brewster brougham at \$500, used (same Brewster now building airplanes). Other models: one white-canopied surrey and one plain top at \$225 each, and a simple little Concord at \$90.

● **Changeover's Progress**—Conversions from truck to wagon are being rushed by many metropolitan merchandisers who maintain delivery fleets. In Hartford, Conn., the New Method Laundry

pulled motors off 16 trucks, attached shafts, and now powers delivery service with horses. Rubber tires are left on, but the dobbin pace is very sparing of rubber.

At Boston the Checker Taxi service collected enough traps to put six horse-drawn outfits at the railroad station stand. Philadelphia is drawing buggies and spring wagons from eastern Penn-

sylvania barns, some from the reservoir of Amish and Mennonite family gigs never displaced by the sect-offending automobile.

● **The Sad Cases**—Unhappiest fleet operators are those who saw their horse-drawn delivery fleets broken up some years back, with wagons leaving town at 15¢ apiece.

The bubble is due to pop like a paper



Tire and gas substitutes are being combed up for the carriage trade. The remnant of Henderson Bros.' carriage stock (above), left over when the firm quit business in 1926, is being reconditioned at Winchester, Mass. Miller Harness Company of New York retails harness that was made for officers' buckboards in the first World War and never used (right) and also displays used surreys and carts.





# Urgent

## An Open Letter to Executives on the Subject of the Critical Scrap Shortage

### INLAND STEEL COMPANY CHICAGO

OFFICE OF THE PRESIDENT

Gentlemen:

Much has been said and done about the great need for more scrap to keep the steel mills running, but do you men who have control in your various plants and factories realize the gravity of the situation?

The steel industry is hoping to produce 88 million tons or more during 1942. To make this amount of steel will require a minimum of 30 to 40 million tons of scrap iron. We used to figure about 55% scrap and 45% pig iron. Now we are using less scrap and more pig iron, but with blast furnaces running 24 hours a day producing all the pig iron possible the only way we can increase our production is to get more scrap. We must not only get enough scrap to carry on this summer, but we must build up a back-log that will carry us through the winter.

Sometime ago we made a drive to clean up scrap on our own plant and secured a substantial tonnage. However, I was not satisfied and six months later authorized divisional managers to junk everything that they did not absolutely need in the operation of the business. This second check produced more than double the first cleanup.

I tell this story because I believe the same situation may exist in your plant. In time of war it is inconceivable to me that anyone with the authority to scrap unused equipment, dies, jigs, forms, moulds, etc., would not do so at once. Our boys at the front need steel with which to fight, need steel for protection. Your scrap steel will help save their lives and help win this war more quickly. So I urge you not to hold back. Scrap it now--tomorrow may be too late.

Sincerely,

*W. Sykes*  
W. Sykes, President  
Inland Steel Company

# INLAND STEEL CO.

bag, of course, when the shooting stops and rubber, steel, and gas are back in circulation. Meanwhile, there are enough people to create a neat buggy boom among those who believe the duration will be long enough to wear out a thimble skein or two.

By a happy coincidence the throw-back to four-footed power comes at the peak of a resurgence of interest in the horse that has been going on for several years. Small, informal country horse shows have been multiplying and in most cases the horses could double in harness.

## Cars Need Parts

**Kanzler says shortage of repairs threatens transport as much as lack of gas and tires. Parts stockpile falls short.**

It may not be gasoline rationing or even the rubber shortage that will ultimately cause a large portion of America's motor cars to be laid up. More likely than not it will be the lack of repair parts.

For this you have the word of Ernest Kanzler, the War Production Board's automotive chief. The industry's program to build up a parts stockpile (BW—Feb. 7 '42, p. 22) has been far from successful, according to Kanzler; a breakdown in essential truck and passenger car transportation threatens within three months.

• **The Stockpile Plan**—Idea behind the stockpile was to allow parts manufacturers to make half again as many parts the first half of this year as they did last, and 70% as many for the rest of the year. This, it was believed, would build up a reserve supply of parts sufficient for two years replacement demand by essential passenger cars and light trucks.

Principal reason why it hasn't worked out according to plan is WPB's refusal to give parts makers any better than an A-10 priority rating. Result has been that output of functional items containing appreciable amounts of critical materials has not even kept pace with service withdrawals. For example, if the aviation industry needs chrome steel for a million or more engine valves a month, there just isn't enough material left for the manufacturer of automobile engine valves.

• **Use Less Gas and Save Parts**—Since parts rationing would probably prove impossibly difficult, the most practical solution would seem to be complete withholding of parts unless the car owner can prove essential use, just as has been done with tires. Kanzler believes that the best way to conserve vital parts is to institute nation-wide gasoline rationing.



Thursday night is shopping night in Norfolk, but the crowds along Granby St., main shopping and amusement thoroughfare, are much the same any day of the week, any hour of the day,

for Norfolk is a 3-shift, 24-hour town. By last week's end there was scarcely a gallon of gas to be had in Norfolk—even for X-card holders. The effect on traffic was scarcely noticeable.

## What's a War Boom Like?

**Norfolk, Newport News, and Portsmouth can answer for Hampton Roads area where Navy comes up like thunder, problems race profits, and everybody wonders where it will all end.**

A young man in a natty-looking new suit climbed into a 1941 Cadillac sports model and drove off. "See that man," said another citizen of Norfolk, Va., "he owns a little hotel on East Main. Two years ago he was getting 50¢, 75¢ a night, and the place was half-empty. Now he gets \$2.50 a night and two-thirds of the rooms are taken by 'permanents' at \$8, \$9, \$10 a week."

East Main is the sailors' street. On it are located the "beer gardens," the once-cheap hash houses, Norfolk's only burlesque, "The Gaiety." It's a combination of New York City's Bowery and 42nd Street west of Broadway.

This hotel owner is one example of what the war has done to Norfolk—and to nearby Newport News and Portsmouth. There are thousands of others.

• **What the Figures Show**—This whole Hampton Roads area counts things by thousands today. Its population has jumped from 404,463 in 1940 to more than 676,000. That's a two-thirds increase. Its great Navy Yard in Portsmouth employs 36,000 civilian workers alone. Their annual payroll is over \$100,000,000. Across the Roads at Newport News, the Newport News Shipbuilding & Dry Dock Co. has jobs for 24,000—against 4,000 three or four years ago—and pays them at the rate of over \$60,000,000 a year.

More thousands throng into the towns from Hampton Roads' great Naval Operating Base, headquarters for

the Atlantic Fleet, from the Naval Air Station, from the garrisons of Fort Story and Camp Pendleton out at Virginia Beach on the Norfolk side of the Roads, from Fort Eustis and Langley Fields on the Newport News side. To cater to the needs of the war workers and the soldiers, sailors, and marines, more thousands have poured into Hampton Roads from other sections of Virginia, from North Carolina, Tennessee, and West Virginia—and from all over the United States. These are the truck drivers, the waitresses, the laundry workers, the easy-money operators of eateries and beer joints, trailer camps, and second-rate hotels and dance parlors, converted out of ramshackle office buildings and old-time revival meeting halls.

Norfolk, Newport News, and Ports-

### HOME WAR FRONTS

Ask where America's war boom has hit hardest and you'll get an argument. Business men in several unsung small communities can say, "Look what it has done to us," as convincingly as their fellows in many a headlined metropolis stuffed with Army and Navy contracts. They'll all talk of sudden changes, problems, responsibilities. Listen this week to the amazing Hampton Roads area.



## The man who never stops studying

**M**OST PEOPLE realize that a life insurance agent is usually a man who "likes people" and wants to help them.

What isn't so obvious is that wanting to be helpful isn't enough. An agent must also know how... and that requires knowing how changing conditions affect policyholders.

For instance, agents today must be able to answer such new questions as: "Is my life insurance affected by the new war clauses?"... "How may my life insurance be tied in with my Social Security?"... "Do the new taxes require any change in my life insurance arrangements?"... and scores of other questions arising from changing conditions.

An agent is always "going to school" because policyholders are continually confronted with new life insurance problems. As they arise, the agent must be ready with advice and counsel. Accordingly, he prepares himself in many ways;

for example, he attends educational meetings and takes correspondence courses. His studies begin the first day he enters the business and continue until he retires.

Last year, many Metropolitan Managers and Assistant Managers, who supervise and train agents, attended 91 special three-week schools. Additional schools are now in progress. Field training instructors are constantly at work with the agents both in the field and in classrooms. Nearly a thousand field-men are enrolled in, or have completed, the course which brings the coveted designation, "Chartered Life Underwriter."

In short, keeping abreast of new developments and how they affect your life insurance program is a big part of the field man's responsibilities. If you are a Metropolitan policyholder these facts are worth keeping in mind.

When problems arise in connection with your life insurance, remember that your agent has probably been confronted with the same questions before. He will be glad to help you... to give you the benefit of his knowledge, training, and experience... to seek, when necessary, the benefit of the advice of Home Office specialists.

COPYRIGHT 1942—METROPOLITAN LIFE INSURANCE COMPANY

*This is Number 49 in a series of advertisements designed to give the public a clearer understanding of how a life insurance company operates. Copies of preceding advertisements in this series will be mailed upon request.*

## Metropolitan Life Insurance Company (A MUTUAL COMPANY)

*Frederick H. Ecker, CHAIRMAN OF THE BOARD • Leroy A. Lincoln, PRESIDENT*

1 MADISON AVENUE, NEW YORK, N. Y.





## A Tip on Where to Find War Boom Towns

For marketing men, bewildered by the shifts in population and buying power occasioned by the war boom, the War Production Board this week provided a rough guide in the form of a list of 60 defense areas in 32 states entitled to increased tea and coffee rations, together with the amounts of the increase for each area.

Two months ago, when WPB ordered tea packers to cut deliveries to 50% of last year's levels, and again last month when coffee was cut to 75% (BW—May 24, p. 82), special allowances were promised for regions in which there had been marked population increases. Although the following allowances, expressed as a percentage increase over regular quotas for the months of May and June, cannot be taken as exact measures of population growth, they do provide a rough idea of what has happened in critical centers in the past

year. This is particularly true in the case of cities given a 10% increase, the minimum which WPB allows for any evidence of growth.

Top percentage increase allowed by WPB is 100%—in the case of Las Vegas, Nev., and the area around Blackstone, Va. Impressive as these percentage boosts may be, the 35% gain in the case of the Hampton Roads region in Virginia is numerically more significant. Incidentally, the case of Hampton Roads indicates the difficulty in trying to relate the percentage figures to 1940 census data. That area figures its total population increase since 1940 at approximately 68% (page 22), but the board's allowance of 35% indicates that only about half the gain was scored last year.

In the following table the symbol (Met) indicates that the entire metropolitan area is covered.

	% Increase in '42 Quota Tea & Coffee		% Increase in '42 Quota Tea & Coffee
<b>Alabama</b>		<b>New Jersey</b>	
Calhoun Co. ....	15	Middlesex Co.* .....	10
Decatur .....	20	<b>New Mexico</b>	
Florence (restricted to a 15-mile radius) .....	35	Roswell .....	10
Huntsville (restricted to a 15-mile radius) .....	35	<b>New York</b>	
Mobile (Met) .....	15	Elmira (and area within 20-mile radius) .....	11
Talladega Co. (and territory within a 25-mile radius of Childersburg) ..	20	Massena .....	20
<b>Arkansas</b>		<b>North Carolina</b>	
Fort Smith .....	10	Elizabeth City area .....	12
Hope .....	20	Fayetteville .....	80
Pine Bluff .....	22	Jacksonville, Morehead City, Kings- ton .....	40
<b>Arizona</b>		Wilmington .....	50
Phoenix .....	12	<b>Oklahoma</b>	
<b>California</b>		Choteau-Pryor area (including Ven- ita, Claremore, Wagoner) .....	80
Los Angeles (Met) .....	10	Lawton .....	20
Oakland area (Alameda Contra Costa, Solano, and Napa Cos.) ..	10	<b>Oregon</b>	
Sacramento (Met) .....	10	Pendleton area (incl. Hermiston) ..	10
San Diego (Met) .....	35	Portland (Met) .....	15
Santa Barbara Co. ....	15	<b>Pennsylvania</b>	
<b>Colorado</b>		Philadelphia (Met)* .....	10
Colorado Springs .....	15	<b>South Carolina</b>	
<b>Connecticut</b>		Columbia .....	20
Bridgeport (Met) .....	15	<b>Tennessee</b>	
<b>District of Columbia</b>		Murfreesboro area .....	20
Washington, D. C. (Met) .....	15	<b>Texas</b>	
<b>Georgia</b>		Abilene .....	22
Augusta area .....	22	Austin (Met) .....	10
<b>Illinois</b>		Beaumont, Port Arthur, Orange (Jefferson and Orange Cos.) .....	25
Marion .....	12	Corpus Christi (Met) .....	22
<b>Iowa</b>		Dallas Co. ....	10
Burlington .....	27	Galveston (Met) .....	10
<b>Kansas</b>		San Antonio (Met) .....	15
Parsons area .....	45	Tarrant Co. ....	10
Wichita (Met) .....	25	Texarkana .....	20
<b>Kentucky</b>		Wichita Falls area .....	18
Elizabethtown, Hardin Co. ....	20	<b>Utah</b>	
Louisville defense area (Jefferson Co., Ky., and Clark and Floyd Cos., Ind.) .....	10	Salt Lake City area (also a number of small towns outside the area) ..	15
<b>Louisiana</b>		<b>Virginia</b>	
Alexandria, Rapides Parish .....	30	Blackstone (towns and localities within 15-mile radius) .....	100
<b>Maine</b>		Norfolk, Portsmouth, Newport News, Hampton, Phoebus, South Norfolk .....	35
Bath-Brunswick .....	12	Petersburg .....	15
Portland, South Portland (Met) ..	11	<b>Washington</b>	
<b>Maryland</b>		Seattle (Met) .....	20
Baltimore (Met) .....	10	Tacoma (Met) .....	15
<b>Michigan</b>		<b>West Virginia</b>	
Detroit (Met) .....	15	Charleston (Met) .....	10
<b>Missouri</b>			
Joplin .....	12		
<b>Nevada</b>			
Las Vegas .....	100		

\* Increase allowed for month of May only.

mouth are the nation's war-boom towns par excellence. Norfolk is the largest of the three. In 1940, it had a population of 174,420 with its immediate suburbs counted in; today, it is estimated at over 290,000. To Norfolk and to the two smaller cities war boom prosperity has brought war boom problems. And as far as the area's established, pre-boom citizens are concerned, the problems far outweigh the prosperity.

● **Women Wanted**—Biggest problem for Hampton Roads' employers is labor. Every issue of the *Virginian Pilot* and *Norfolk Ledger-Dispatch*, Norfolk's morning and evening papers, carries from four to six columns of help-wanted ads. Most are seeking women, for Norfolk business men have long since given up trying to get men except for jobs which women absolutely cannot fill.

In other parts of the country, women gas station attendants are still an eye-catching exception; around Hampton Roads they are becoming the rule. A year ago the Monticello-Norfolk's largest hotel—had waiters in its main dining room, male elevator operators, male dishwashers. Now all these jobs are filled by women.

There's one striking exception to this wholesale substitution. Of Norfolk's half-dozen major movie houses, only



Even in Norfolk, shoe-shine girls are still something of a novelty, but signs like J. J. Newberry's window display have become standard.



One of the first steps in building a battleship...




**B**ELIEVE it or not, it takes thirty tons of blue prints to make a battleship!

So when a Corning workman applies the final touches to a sparkling four or five foot glass cylinder for a modern blue print machine, he may be starting a battleship just as much as the fellow who sets the first rivet.

In order to turn out 20 feet of prints per minute, special glass is needed. It must uniformly pass the rays that affect sensitized paper, and also withstand heat generated by lamps using 10,000 watts. Because of their extreme size the cylinders have to be "hand blown", and to close tolerances. This takes laboratory knowledge of glass and a high degree of skill.

You get a lot of both at Corning—laboratory and engineering backed up by men who know glass as a tailor knows woolens. It's the main reason Corning can often do things with glass that others have given up as impossible.

Examples of Corning's skill and knowledge are always around you. The modern metal-saving one-piece glass auto lamp owes much to Corning research. Clinical thermometers with an accurate bore, a third the diameter of a hair, are the product of Corning skill.

Today Corning's knowledge and experience are available to any manufacturer who wants to use glass, particularly to supplant metals needed for war use. 

Maybe glass can take over some job in your plant and do it better. If you've been thinking along these lines we will be glad to hear from you. Corning Glass Works, Corning, N. Y.

**CORNING**  
—means—  
**Research in Glass**



**Practically Every American Aircraft  
Engine Has Many Parts Designed by**

# BOHN

**Y**EARs ago Bohn non-ferrous research developed new, vastly improved, and more economical aluminum and magnesium parts which are widely used throughout the entire aircraft industry.

Another advanced refinement is Bohn precision-made engine bearings, which are standard equipment on practically every airplane.

Right now the entire Bohn resources and man power are shoulder to shoulder with Uncle Sam. The ex-

tensive Bohn research on aluminum and magnesium products, so necessary for the war production program, will prove of tremendous value in solving many of tomorrow's manufacturing and merchandising problems.

More and more this organization is regarded as headquarters for modern aluminum and magnesium developments. Remember the name Bohn. Some day it may be most helpful to you.

**BOHN ALUMINUM AND BRASS CORPORATION**  
**DETROIT, MICHIGAN**

*Designers and Fabricators*

**ALUMINUM • MAGNESIUM • BRASS & BRONZE • AIRCRAFT-TYPE BEARINGS**







Day shift workers at the Navy Yard cash their paychecks. Every month the American National Bank in Portsmouth handles 70,000 of these checks.

one employs usherettes. The reason: women just can't cope with the Navy, and the sailors are the movies' biggest patrons. The turnover in ushers is something terrific. Says Pierre Boulogne, manager of the Norva theater, a friendly man who likes to call his employees by their first names, "I just call them all 'son' now."

Women are easier to get than men, but almost equally hard to hold onto. Any girl with a couple of months' stenographic training can make it pay with the Navy or Army. One Norfolk business man who employed a secretary at \$110 a month, an assistant secretary, at \$100, and a copyist, at \$80, lost them all last week. They went to the Navy at salaries ranging from \$150 to \$120.

• **Some Results**—Employers are resigned to getting along with an inferior class of labor. Said one restaurant owner of his colored waitresses, "North Carolina field hands." A department store manager said, "We get 'em third rate, develop 'em into second rate, then lose 'em."

The labor shortage outweighs all the other shortages. Nine months ago the Norva ordered a new air conditioning plant, finally got delivery six weeks ago. Now a sign is flashed nightly on the theater's screen, apologizing for the lack of air conditioning. It takes four welders to install the plant, the Norva can only get one. It may take weeks to complete installation.

Toting almost double the number of passengers it carried two years ago, Virginia Electric & Power Co. could easily use more street cars and buses on its Norfolk and Portsmouth lines. Yet some mornings as many as ten cars sit idle in the barn. Overworked motormen have failed to show up for work, and there is no relief crew.

• **Houses, Hotels, Anything**—The housing shortage is too long-standing a worry to occasion much comment now. Hope is that 10,000 demountable units being built with government money will relieve the pinch. The transient problem is something else. Every Friday and Saturday night sees hopeful travelers lined up three-deep in front of hotel registration desks—and most of them haven't a prayer of getting a room.

The Norfolk Travelers' Aid Society deals with 40 or 50 emergency cases daily. There are the Army and Navy wives who turn up in town—usually with two or three children in tow and without a dime left over from train fare—expecting to be met and cared for by husbands who already have been transferred elsewhere or sent to sea. Young girls lured to Hampton Beach by expectations of high-paid jobs can get to the wrong "hotels." Weekends see an influx of parents visiting their boys in service that hotels and auto camps can't possibly handle. Those lucky enough to have cars along sometimes are forced to sleep in them.

• **Landlords' Headache**—Rent control is a major headache for virtually every landlord in the area. Many rents have doubled or more since the April 1, 1941 level to which the Office of Price Administration is seeking to push them back throughout the Hampton Roads area.

Operators of resort hotels and cottages around Virginia Beach and Ocean View are screaming. A number of these stayed open last winter and the winter before—frequently at the request of the Army and Navy—to house military personnel and war workers, at prices way below those charged during the summer season; \$35 rooms have been rented for \$15 during the winter. Now it looks as

Someone in your plant ought to see this advertisement!

Palmetto Quarries equips rock conveyors with seven

## AMERICAN REDUCTION DRIVES!



This American Reduction Drive is one of seven which operate crushed-rock conveyors at 134 RPM, connected with 5 HP motors operating at 1740 RPM by seven American Econ-O-Matic V-Belt Drives.

Palmetto Quarries Company, Columbia, S. C., recently completed an outstanding new crushed-stone plant. According to the consulting engineer who designed the new plant: "All the 5 HP conveyors are driven by motors mounted on tension-control bases made by The American Pulley Company, and connected by American Econ-O-Matic V-Belt Drives to American Reduction Drives mounted directly on the conveyor head shafts. This type of drive is new, and is certain to appeal greatly to the stone industry, due to its simplicity and ease of installation."

An excellent testimonial . . . and here are additional reasons why it will pay you to install AMERICAN REDUCTION DRIVES:

- Immediately available from stock.
- Mount on shaft of driven machine.
- Easy, inexpensive to install or relocate.
- Low installed cost and low maintenance.
- Compact, saving valuable working space.
- Any speed from 154 down to 11 RPM.
- Six standard sizes, ½ to 25 HP, can be used with any standard motor.

Write today for Catalog R-41-A.

The American Pulley Company

4280 Wissabickon Ave., Phila., Pa.



# EMERGENCY INFORMATION

## ON SHIPPING BOXES

● How to pack war materials? How to pack new products? New packages to take care of product changes? Can damage in transit be reduced? Can this new product be protected and shipped in corrugated boxes? How can we pack to save time in loading and unloading? Sealing? Stacking? How can we get greater efficiency in the shipping room? Hinde & Dauch is prepared to help you solve these problems with two important services:

**1.** Hinde & Dauch and its corps of Package Engineers and shipping experts offer, through the H & D Package Laboratory, a wealth of experience and information gained from years of designing and manufacturing corrugated shipping boxes. This experience is yours for the asking.

**2.** Hinde & Dauch offers you FREE booklets on packaging and shipping in corrugated boxes. First two booklets in the Little Package Library series are: "How To Seal Corrugated Shipping Boxes"; "How To Stack and Load Corrugated Shipping Boxes." For the shipping information that will help you most, MAIL THE COUPON TODAY!

**HINDE & DAUCH** *Authority on Packaging*

FACTORIES in Baltimore, Boston, Buffalo, Chicago, Cleveland, Detroit, Gloucester, N. J., Hoboken, Kansas City, Lenoir, N. C., Montreal, Muncie, Richmond, St. Louis, Sandusky, Ohio, Toronto.



How To Seal  
Corrugated  
☐ Shipping  
Boxes

How To Stack  
and Load  
Corrugated  
☐ Shipping  
Boxes

THE HINDE & DAUCH PAPER COMPANY  
4261 Decatur Street, Sandusky, Ohio

Have a Package Engineer call ☐ Yes ☐ No  
Please send me the booklets checked.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

though operators might be stuck with these prices permanently.

● **It's Doubled**—Standard answer to the question, "How much has your business increased in the past year?" is, "It's doubled." Most established business men will add that business is too good. Said one department store manager, "We'd be doing just as well and have fewer headaches with a third less volume." Fear that the boom won't last retards expansion to take care of it. While most retailers are taking advantage of the present easy profits to do a bit of modernization, not one major Norfolk department store or specialty shop has actually added extra floor space. (And, of course, they would have the problem of adding help.)

Last month the Sunlight Laundry & Cleaning Co.—biggest laundry in Norfolk—took large newspaper space to ask its customers to do as much washing as possible at home, not to wear white summer suits, and, generally, to patronize it no more than absolutely necessary. At peak hours the line forms to the right in restaurants, shops, drugstores, movies.

● **Three-Shift Life**—Conservative Norfolk businesses, accustomed to a leisurely routine, have adapted themselves reluctantly to the three-shift schedules at the shipyards. Most movies now open at 10:45 or 11:00 in the morning, run through to the midnight show—more in hopes of taking the load off the overcrowded evening hours than in an effort to bring in more money. At the request of the Navy, department stores and



In Norfolk, women are taking over men's jobs—and men's clothes—as gas station attendants.

other retailers now open at 12 on Thursday, close at 8:45 or 9:00 to give war workers some extra shopping time.

Rice's—big woman's specialty shop—queried Thursday evening shoppers, found that only about a third of the dollar volume sales on that night came from war workers. Rice's reports that its total week's sales have been unaffected by the night opening, that Saturday afternoon business has fallen off somewhat.

• **Wartime Banking**—One bank, the Southern Bank of Norfolk, is also staying open Thursday nights to accommodate late shoppers. In Portsmouth, the American National Bank, only federal depository in the town, opens from 4 to 6 on Mondays, Wednesdays, and Fridays to cash the checks of workers at the Navy Yard who are paid off three times weekly. These openings cause genial Frank Lawrence, the bank's vice-president, to mop his face as he looks out over the crowd of brawny workers, comment, "Isn't this something?"

Bank deposits in the area have increased by a good 50%. On Dec. 31, 1940, Norfolk's National Bank of Commerce had deposits of \$42,000,000. They have climbed to over \$64,000,000, adding the last \$4,000,000 since Apr. 4. To accommodate the elastic pocket-books of war workers, local banks have introduced no-minimum-balance checking accounts (BW—Apr. 18'42, p22), charging \$1.00 for 15 checks.

• **Utility Troubles**—Public utilities are stretched to the breaking point. Before the summer of 1940, the average daily pumpage of Norfolk's water system was 13,000,000 gal. a day. Last summer it hit 23,000,000 gal., and it's already back to that this early in 1942. Bad droughts last year and this have added to the trouble. By local ordinance, hoses are out for about everything except fires.

Along with other benefits, Hampton Roads enjoys the usual quota of boom-town vice. The Monday morning docket at the Norfolk police court has doubled and the city is considering establishing a night court for the first time in history. But Norfolk citizens say that, when it comes to hell-raising, the 1942 Navy doesn't hold a candle to the Navy of 1918. Recently, the Navy, spurred by social reformers, cleaned the red light district out of East Main street. One indignant Norfolk lady's rejoinder to the comment that now it's all over town was, "Of course, those places can pay any rent."

• **Profitless Convoys**—However other businesses may have prospered, the area's oldest business—shipping—has suffered sadly as a result of the war. Tobacco was shipped out of Hampton Roads before the Pilgrims landed at Plymouth. Now, except for some coast-wise business, commercial shipping is a dead dog. Great convoys slip out past the Virginia Capes, but they bring no



## One Hand Driving • Power Tools • Tighter Assembly = 50% Less Assembly Time with Phillips Screws

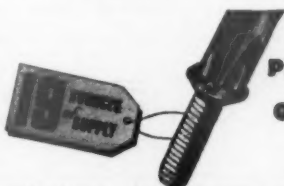
**B. P. (Before Phillips).** Slow-driving slotted screws required two hands to aim the screw and steady the work — and still accidents happened, causing plenty of mangled fingers or scars in the work. Always something going wrong — crooked screws — heads splitting — burrs to remove — loose assemblies. Thank goodness those days are gone forever!

**A. P. (After Phillips).** Faster-driving Phillips Recessed Head Screws need only one hand... the other hand is free for support. No fumbled screws — straight, effort-

less driving. Even when assembling parts already finished — like enameled, painted or other easily-scratched surfaces — power driving is safe, because there's no danger of driver slippage. And screws can be set up tight without heads splitting or raising burrs.

Your assembly crew will find it "easy as rolling off a log" to produce better work... in half the time... at a 50% cost saving with Phillips Screws.

For facts and screws write any firm listed below.



**PHILLIPS RECESSED HEAD SCREWS**

**GIVE YOU 2 for 1** (SPEED AT LOWER COST)

WOOD SCREWS • MACHINE SCREWS • SHEET METAL SCREWS • STOVE BOLTS • SPECIAL THREAD-CUTTING SCREWS • SCREWS WITH LOCK WASHERS

American Screw Co., Providence, R. I.  
The Bristol Co., Waterbury, Conn.  
Central Screw Co., Chicago, Ill.  
Chandler Products Corp., Cleveland, Ohio  
Continental Screw Co., New Bedford, Mass.  
The Corbin Screw Corp., New Britain, Conn.  
International Screw Co., Detroit, Mich.  
The Lamson & Sessions Co., Cleveland, Ohio  
The National Screw & Mfg. Co., Cleveland, Ohio

New England Screw Co., Keene, N.H.  
The Charles Parker Co., Meriden, Conn.  
Parker-Kalon Corp., New York, N.Y.  
Pawtucket Screw Co., Pawtucket, R.I.  
Phoebe Manufacturing Co., Chicago, Ill.  
Russell, Burdall & Ward Belt & Nut Co., Port Chester, N.Y.  
Scovill Manufacturing Co., Waterbury, Conn.  
Shakproof Inc., Chicago, Ill.  
The Southington Hardware Mfg. Co., Southington, Conn.  
Whitney Screw Corp., Nashua, N.H.





Action, Machine-gunners! Within a few seconds after their truck has stopped this crew will have their machine gun firing. Typical of America's fast-moving army, this crack unit rides into action on rubber.

PHOTO BY U. S. ARMY SIGNAL CORPS FROM ACME

# VICTORY . . . *will ride on*



**The Sign of Tire Inspection, Repairs and Recapping by Experts Who Know How**

In this war of movement, the part the rubber tire can play in bringing Victory is beyond estimate.

General has long been a leader in producing *Quality* tires that run farther with more safety.

Today, the full specialized talents of General Tire are being directed straight at the target of producing tires *that fight better*. Our rubber and *your* rubber is going into tires that fly; tires that carry men, arms, materiel; tires that need no road; tires that will *keep on fighting*.

Our entire organization at General . . . management . . . labor . . . office personnel . . . is working



ACME PHOTO

Ready! Aim! Fire! Waiting for the final command, the section chief holds his arm up, will drop it as the signal to the gunner to yank the lanyard and fire the field piece—a 155 millimeter howitzer. Such field pieces as this roll easily over any kind of terrain on General Traction Tread Balloon Tires.



ACME PHOTO

**Armored Division on Review!** This photo, showing part of the 2,000 vehicles of the Second Armored Division, illustrates the variety of military equipment requiring tires, tubes, and other rubber products manufactured by General.

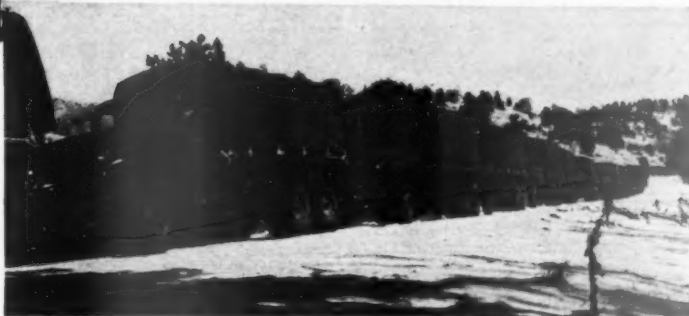


PHOTO BY U. S. ARMY SIGNAL CORPS

**Supplies Are Vital**—and it's the responsibility of the Quartermaster Corps to get them to the troops in the field. Here is a long convoy of heavily loaded trucks on a mountain road somewhere in the western part of the United States.

# *the Rubber you save*

shoulder to shoulder . . . making our Victory effort one of helping every ounce of America's precious rubber contribute *directly* to winning the war.

Your job is to see that the tires on your car and on your truck deliver *all* the mileage built into them; that they are not abused; that they are kept in *top condition* until their last mile. That, even though you are eligible for recapping or new tires, you do not ask America to sacrifice any of its *war rubber* for you until it is absolutely necessary.

**THE GENERAL TIRE & RUBBER COMPANY**  
AKRON, OHIO

COPYRIGHT 1942, THE GENERAL TIRE & RUBBER CO., AKRON, OHIO

Business Week • June 6, 1942



ACME PHOTO

**This Army Goes Through Its Obstacles!** Uncle Sam's scout cars plow through mud, sand and over rough terrain because of the powerful traction of General's "non-directional" cleated tire.

money into the pockets of Hampton Roads' shipping brokers. The area's \$25,000,000 summer tourist trade hasn't been helped by the gasoline situation or by erroneous reports that beautiful Virginia Beach is covered with barbed wire. Resort hotels may keep filled up with military personnel, war workers, and

relatives of service men, but these are no freehanded holiday spenders.

• **And Afterward?**—More often in Hampton Roads minds than the present boom is the thought of what may follow it. Some hopefuls argue that the expanded utilities, housing, and labor supply will attract new post-war indus-

tries. Most expect an almighty slump. Prayer of every Norfolk citizen is that, whatever else may go, the Navy will remain. For the Navy is Hampton Roads' biggest business. In Norfolk, they don't talk about the depression, they talk about the time the fleet pulled out for the Pacific Coast.

## WAR BUSINESS CHECKLIST

### Washington's Significant Orders on Materials and Prices

• **Instruments**—Manufacture of industrial instruments, regulators, and control valves using chromium or nickel, or alloys thereof, is forbidden by Order L-134 except in certain specified conditions and on priority-rated orders after June 25. After July 25, manufacture must also conform to specifications set forth in the order as to size and metal content. No one may accept a delivery more than 90 days before it is to be installed.

• **Refrigerators**—Distributors and manufacturers' stocks of domestic mechanical refrigerators are unfrozen by Order L-5-d. Sales, however, may be made only to the Army, Navy, Maritime Commission, or Panama Canal or in accordance with a certificate of transfer issued by WPB. Applications for such certificates should be made on PD-427 to the National Housing Agency if for public war housing; to local FHA offices if for private war housing; to U. S. Public Health Service in Washington if for public health needs; to the Board of Economic Warfare in Washington if for export. Dealers may continue to sell freely the stocks they have on hand Feb. 14 except that gas and kerosene refrigerators may not be sold unless they had been paid for on Feb. 14.

• **Guns**—Distributors' stocks of small gauge shotguns, odd-caliber rifles, and a few types of .22-caliber rifles and pistols are released for general sale by amendment of Order L-60.

• **Industrial Equipment**—Sale of industrial equipment (including conveyors, elevators, gearing, fans, blowers, compressors, pumps, motors, and engines) is forbidden by Order L-123 except upon a rating of A-9 or better. Maintenance orders of less than \$1,000 are exempt.

• **Clothing**—Price of 1942 fall styles of women's and children's outer clothing must not, under Regulation 153, exceed the highest price charged by the seller to a purchaser of the same class for a garment of the same type and substantially equal quality between July 1 and Sept. 30, 1941. No seller may introduce a higher price line than last year, but he may sell a type of garment not sold then, taking his price from the most closely competitive seller.

Women's and children's lounging wear may not, under Order L-118, be manufactured of wool purchased after May 27.

• **Textiles**—Manufacturers' prices of new cotton and burlap bags are frozen by Regulation 151.

Ceiling prices of osnaburgs more than 42 inches wide have been lowered by removing them from Regulation 118 and bringing them under the provisions of Schedule 35 at a price 10% higher than narrow osnaburgs, which are already covered by Schedule 35.

Combed yarn mills are required (Order M-155) to earmark at least 40% of their production of medium combed yarns and not less than 65% of their coarse combed yarn for the armed services, beginning not later than June 29. The earmarked yarns will be available only to the Army, Navy, lend-lease or other war agencies, to manufacturers of officers' uniforms, of tracing cloth, of typewriter ribbons, of electrical insulation materials, and to manufacturers specifically authorized to buy by WPB.

Use of bare rubber thread and of covered rubber thread of size 60 or coarser has been forbidden, by amendment of M-125, in certain surgical and industrial garments in which it was previously permitted. Such thread is now restricted to military uses.

Amendment of the dyestuff order (M-103) permits civilian use of Golden Orange G and changes civilian use of nonprohibited dyes from half the 1941 civilian use to half the total 1941 use.

Amendment of Order M-91 requires cotton mills to clear with procurement officers any new preference-rated order for cotton duck which would require displacement of an existing order rated higher than A-2.

• **Leather**—Order M-141 requires tanners to set aside for sale to war agencies all horsehide fronts suitable for leather meeting military specifications for gloves, jackets, windbreakers, other garments.

• **Foods**—Canners are required by Order M-86-b to set aside for at least 60 days for sale to the government their entire 1942 pack of salmon, sardines, Atlantic herring, and mackerel. They must report their pack weekly on PD-695.

Amendment of M-86-a makes it clear that the grade preference established in the order for fruits and vegetables packed for military and lend-lease use takes precedence over the can-size preference.

Canners prices (f.o.b. factory) of canned or glass-packed vegetables are established by Regulation 152 at the average price during the first 60 days after the begin-

ning of the 1941 pack plus 8% plus actual increase in price of the raw commodity as of May 4.

A list of processed grain products which are usually priced, like flour, at a constant markup over grain prices have been exempted from the General Maximum Price Regulation when sold in packages of more than three pounds.

Definitions of flour, cake mixes, flour mixes, and packaging have been incorporated in the General Maximum Price Regulation by Amendment 2.

• **Coal**—Lake carriers are forbidden by ODT's General Order 9 to ship more than half as much coal as in 1941 from Lake Erie ports to ports on Erie, Ontario, in the Chicago area, or on the Detroit and St. Clair Rivers south of and including Port Huron. An exemption is granted to self-unloading vessels.

• **Iron and Steel**—Grey iron foundries, according to Order 1 under GMPR, are to price castings according to the formula used in March, applying the cost factors in effect in that month.

Amendments to Orders M-21 and M-21-b permit the sale without priority ratings of fence wire, barbed wire, poultry netting, fence posts, gates, staples, corrugated roofing and siding.

• **Lumber**—Amendment of the lumber freeze order (L-121) exempts certain sizes not suitable for military use. The Panama Canal, Defense Plant Corp., lend-lease, shipbuilding plants, and mines are added to the list of permitted buyers.

Mahogany and Philippine mahogany suitable for military purposes may not (Order, M-122) be sold or used except for aircraft and boats, or for patterns and models of priority-rated products, or for sales to the U. S. and lend-lease governments. Fabricators may use present stocks without restriction. Logs imported from Mexico and Central America no longer require shipping space certificates.

• **Plumbing**—No metal except hardware may be put into process after June 20 for the manufacture of sinks (except scullery), foot baths, drinking or washing fountains, and water closet bowls and tanks, according to Schedule 12 of Order L-42. Limited amounts of iron and steel may be used in shower receptors and stalls, plaster and grease interceptors, and septic tanks.



# New Life *for* Old Cars

**C**CAREFUL maintenance, especially when conducted with an eye to preventing needlessly premature wear, is the best way to extend the life of cars and get maximum use from fairly recent models. • However, the serviceableness of General Motors dealers is not limited to this in keeping countless cars at work on necessary tasks. • As a dealer in used cars, he has acquired expertness in reconditioning that can give a new lease on life to many a long-driven car. • His experienced mechanics are well prepared by factory-backed training. • He is equipped for major service operations. His reconditioning, therefore, can create new life in old cars and thus goes far toward filling vital transportation needs. • If you are concerned over a well-worn car that fills a necessary purpose, talk to your local GM dealer about the possibilities of restoring it to fresh usefulness.

*The Automobile User's Guide answers your questions about taking care of your car in wartime. For a free copy see any General Motors dealer today or write Customer Research Staff, General Motors Building, Detroit.*



## GENERAL MOTORS

CHEVROLET

PONTIAC

OLDSMOBILE

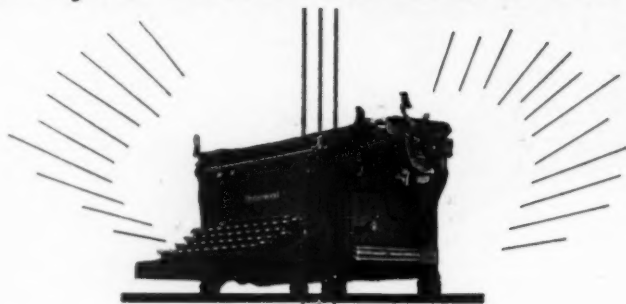
BUICK

CADILLAC

**NOW AT WORK ON:** Aircraft Engines • Airplane Parts • Bomber Sub-Assemblies • Military Trucks • Armored Cars • Rapid-Fire Cannon • Machine Guns • Diesel Engines • Shells • Tanks and Tank Parts • Propellers • Cartridge Cases • Gun Mounts • Fire Control Devices • Electrical Equipment • And Many Other Wartime Essentials.

# 1942

## How Long will your Office Machines Last?



How long will the war last?  
How long will my office machines last? . . . these are the questions many executives are asking.

Here is one thing you can be sure about. Your office machines will last longer if you take advantage of the Underwood Maintenance Service Plan!

Your Underwood Representative will be glad to explain

how the plan assures peak performance, economy and longer life for your office machines. His knowledge, experience and ability to do a thorough job will help keep your typewriters, adding machines and accounting machines on the job.

There's an Underwood Service Representative eager to serve you! Call your local Underwood Elliott Fisher office.

### Underwood Elliott Fisher

Helps Speed the Nation's Victory!

Service in 407 Cities in the U. S. A. and 26 Cities in Canada

Invest in America!  
Buy War Savings Bonds and Stamps

Underwood Elliott Fisher Company  
One Park Ave., N.Y. Nationwide Service

# 1944?

## Fuelless Portland

Transportation problem cuts oil and coal supply; briquets are sold out and there is no wood unless you cut it yourself.

William A. Bowes, Commissioner of Public Works of Portland, Ore., called newspaper reporters to his office one afternoon late last month and gravely handed them a statement on the city's fuel situation which, he said, "is daily growing worse." In so doing he highlighted the house-heating problem which is worrying nearly all Pacific Northwest cities.

• **Sold Out on Briquets**—On the same day Portlanders opened their papers to see, with considerable shock, an advertisement in which the Portland Gas & Coke Co. regretted to announce that its carbon briquets, widely used for heating Portland homes, "are sold out well into the winter," that "no further orders can be accepted at this time." Usually at this time of the year the P.G.&C. advertises cut rates on briquets in order to get rid of surpluses and keep plants operating at a reasonable volume.

The city's householders who use oil for heating (about 15,000) had been watching with dread the increasing shortage of tankers used to carry oil up the West Coast from Southern California and the brisk movement of war commodities and troops on the Southern Pacific tracks which is crowding off the rails what tank cars are left for the Los Angeles-Portland haul.

• **Wood Fuels Are Tight**—Worst of all, the 44,000 householders (out of a total of 100,000 single-family units) who depend on cordwood for heating learned last week that very little is being cut and very little will be available next winter. To have plenty of cordwood on hand by November the wood-cutters ought to be doing their stuff in the forests right now. As it is, most of them are busy in the shipyards and aircraft factories of Portland, Tacoma, and Seattle.

Nearly a quarter of Portland's single-family dwellings are heated by units using sawdust for fuel. Because of its bulk, the average basement will hold only half of a normal winter supply. During severe cold spells (like the one last February) hundreds of families run out of sawdust simultaneously and can't get immediate deliveries because only a given quantity is produced each day. The mills haven't any storage facilities so all sawdust not immediately hauled off by trucks is either burned on the spot or sold for industrial uses. A recent fire at The West Oregon Lumber Co., one of the larger Portland producers, knocked out a big source of supply.

• **Cut Your Own**—Oregon state and city

officials have several partial solutions to offer. Commissioner Bowes, for instance, in his statement last week said "it wouldn't be a bad idea if blocks or groups of neighbors were to form co-operatives and go out into the country to cut their winter's fuel needs." He advised spending days-off and weekends "rustling supplies from the wooded areas close to Portland." Gov. Charles A. Sprague wired Secretary of the Interior Ickes that mines in Coos County, Ore., now producing only about 8,000 tons annually, could produce 140,000 tons yearly "if given financial assistance."

• **Little Electric Heating**—Despite the closeness of "cheap" electric power at Bonneville and Grand Coulee, the area hasn't gone in for electric heating. The private power companies always have hesitated to promote it, claiming it would require too heavy an investment in transmission line and equipment. Before the U. S. entrance into the war, Bonneville administrators (aided by equipment makers) tried to promote electric heating, but the metals scarcity has effectively squelched the effort. When the government decided on coal rather than electricity as a heating medium for the 2,000-unit housing project at Vancouver, Wash. (across the Columbia River from Portland), the Bonneville forces gave up the ghost.

## Tropical Topic

Summer suitings have set new records year after year, but many good customers now prefer olive drab or navy blue.

Everywhere in the United States except the South, June 1 is the accepted opening of the summer clothing season. This week, as windows blossom with lightweight suits, retailers are more uncertain of sales prospects than they have been since the early 1930s. For eight years summer suits have shown an upward trend, largely because Northerners have discovered that in hot weather it is better to be comfortable than proud. This business has grown at the expense of spring weights until now summer weights represent about 30% of the total dollar volume of all clothing stores.

Bible of the industry is the annual summer clothing survey put out by Men's Wear. Last August, when the most recent edition was compiled, the survey showed for 1941 a sales increase of 17.2% above 1940, and 1942 was then estimated to go 13.1% over 1941. Meanwhile, so large a proportion of the total market has taken to wearing government-issue clothing that all bets are off. Retailers are frankly in a quandary.

• **Worsteds Step Out**—Palm Beach really popularized summer clothing and

"The guy who designed this jig sure knows machine tools"



Workmen have plenty of praise for **HECKER** tool engineers. That's because, where **HECKER** tools, jigs and fixtures are on the job, machine operators find it easier to turn out top quality workmanship. You get maximum production. Your workers are happier.

**HECKER** tools, jigs and fixtures are designed and built by men who know what machine tools and their operators can do. They see many of their products at work in our own plant, as we're using them to produce precision parts for many of the country's leading airplane manufacturers.

**HECKER** can build you a single jig or do a complete tooling-up job, even placing the equipment in production, if you desire. We welcome your inquiries on tools, jigs and fixtures. Write A. W. Hecker, 1974 E. 66th Street, Cleveland, Ohio.

**A·W·**  
**HECKER**

DESIGNERS AND BUILDERS OF TOOLS, JIGS  
AND FIXTURES • • • FABRICATORS OF AIRCRAFT PARTS





## THEY FLY THE WEATHER ...WE MAKE IT!

Pilots must take the weather as it comes. But builders of airplanes and other war materials needn't let factory weather limit output. For we make ideal weather for any industrial process... and the improvement soon pays for itself.

Must you hold finishing operations to close tolerances? *Uniform temperature* will speed your precision work and minimize rejects! Is rust or corrosion a problem? *Humidity control* will lick it! Does air-borne dust plague you? Again, *air conditioning is your solution!*

No two plants have identical air conditioning problems. And usually a plant's various departments differ in their weather needs. So your installation should be tailor-made for you. That usually means decentralized units, rather than a central system. Advantages: (1) optimum weather for every department; (2) maximum flexibility; (3) minimum operating cost; (4) localization of shutdown should a unit be damaged; (5) quick, easy installation.

When you plan air conditioning, the counsel of a locally experienced expert may help you avoid costly mistakes. You'll find the ideal collaborator in your resident Fairbanks-Morse engineer. His judgment is bias-free, thanks to the completeness of the F-M line. To meet him, simply write Fairbanks, Morse & Co., Dept. F131, 600 S. Michigan Ave., Chicago. Branches and service stations throughout the United States and Canada.



## FAIRBANKS-MORSE

### Air Conditioners

through 1937 led the field, hitting in 1935 a peak of 41.6% of the total market. In 1938, tropical worsted passed Palm Beach, has climbed steadily ever since. Last year, tropical took 50.5% of the total market, and last August was estimated to reach 52.3% in 1942. Meanwhile, Palm Beach skidded to 18.4% in 1941, was estimated to get 13.5% in 1942.

What happened to Palm Beach is partly of a pattern familiar to the men's clothing industry, is partly individual to the fabric. Clothing men say that any fabric which really soars to dominance is riding for a fall, that men get their closets filled with garments of this material and then buy other kinds for a few seasons to restore the balance.

• **Problem of Labels**—However, Palm Beach has undoubtedly taken a lacing at the hands of the Wool Labeling Act; its wool content varies according to patterns and uses, but the label always shows a substantial cotton proportion—and men are notoriously all-wool buyers. Also, the advertising and promotion efforts of Palm Beach are considered, in the trade, to have been so lavish that they passed the point of diminishing returns. Consequence is that dealers no longer get the same old inducements to plug this fabric.

Worsted gabardines, mohair-and-worsted, and other relatively staple light-weights keep getting, year after year, around 10% to 15% apiece. Wash clothing runs below 5% in these statistics—which southern makers of cotton and linen fabrics say is far too low, caused by the statisticians' alleged too-great dependence upon up-North market information. Certainly, a curbstone survey of downtown New Orleans, Memphis, or Galveston on an August day makes 5% look less than optimistic.

• **Seersucker Perks Up**—Biggest factor in the class of wash clothing is Haspel Bros., New Orleans, which makes its garments of fabrics from the Lorraine Mills in Rhode Island. Haspel has climbed to leadership through holding down its manufacturing expense by working a full-time force of employees steadily the year around and by discreetly promoting its suits in media where the effect upon dealers is at least as great as the effect upon consumers.

But also, Haspel success is due to giving that sloppy old bed-ticking stripe fabric, seersucker, a shot-in-the-arm by adopting plaid and other lively patterns, and by abandoning the ante-bellum gunny-sack cut in favor of sufficient tailoring to give shape to the garments though leaving them perfectly washable.

• **Hopeful Haspel**—Despite an up-North traditional aversion to wash suits, no matter how muggy the weather, Haspel keeps the damyankees buying a few more of its seersuckers year after year. In 1941 and 1942, odd jackets of this material have been getting a big play

at Eastern schools, which augurs well for future spread of the style to older, more sedate wearers. Haspel Bros. figures it could do a lot bigger volume next year than the all-time high it is rolling up this year if only seersucker cloth, like all other cottons, were not scarce and getting ever scarcer.

## LEAD FROM SKEET GROUNDS

At Palm Springs, Calif., a skeet ground used only for marksmanship training (four months the past four winters) was prospected for lead by Walter Illick, the mining man who discovered the metal resources of the old Los Angeles city dump (BW-Jan. 31 '42, p. 57).

He found that one pound of sand yielded three ounces of shot, rigged up a simple machine from non-priority materials to work the top soil where the shot is concentrated—and then the Army took over the ground as part of a dive-bombing practice field.

However, Illick maintains that skeet grounds all over the country are rich in lead—one in particular, at Sun Valley, Idaho, where an estimated 5,000 lb. of lead have been shot for several winters. Illick works on a basis of 50-50 with the owner of the ground, and lead at 6¢ pays a nice profit on the deal to both.

In Palm Springs, with an old auto engine for power, Illick rigged two screens, one of fly-screen that sifted out all sand and retained shot and rocks, a second to screen out the shot and pass larger debris.

For anyone figuring on going into the shot-recovery business, Illick prescribes this formula: "Figure one ounce of shot per shell; find out how many clay birds have been shot yearly, for how many years; multiply and you have a reliable estimate of ore in sight."

## ROPE FROM YUCCA?

Yucca Fiber & Products Co., with headquarters in Chinatown, San Francisco, began field tests last week of a machine to extract fibers from the leaves of the yucca plant. If successful, a plentiful raw material for rope, mattresses, burlap, and upholstery will become available.

The firm is controlled largely by wealthy Chinese, and Andrew Wu, graduate of the University of Washington, is general manager. It has obtained the right to harvest yucca plants from government waste lands in Arizona and New Mexico with shredding machines mounted in mobile units which can be moved from place to place as harvesting is completed.

Sponsors of the process claim that the fiber compares favorably in appearance and texture with other upholstering materials. It is green in its natural state but can be bleached white with chemicals.

# THE WAR—AND BUSINESS ABROAD

## War Still Centers in Washington

Continued offensive operations on Continent and in Middle East and Far East depend on solutions to supply problems now sought in capital. Russia gets bulk of lend-lease goods.

The spectacular news this week came from Cologne and Essen, Tobruk, and Kinshwa. But of far greater significance—both to business and to the strategists who are charting the long-term plans for winning this war—were developments in Washington.

The 1,000-plane R.A.F. raids on Cologne and Essen were spectacularly successful for the United Nations. Cologne is one of the main communications centers of Germany. Practically all rail lines connecting Germany with Belgium and northern France pass through this city, and it is the base for a network of river and canal traffic.

In addition, Cologne is an industrial center with dozens of chemical plants, machine-tool factories, railroad shops, and automobile parts plants.

● **Object of Raids**—Some experts insist that it is too early to expect that combined British and American air forces based in the British Isles can continue to make nightly raids of this size on Germany and Axis-held countries. But if they can be repeated in a crescendo of force and frequency during the summer they will accomplish what is planned: (1) the destruction of vital war industries and supplies in Axis territory; (2) continuing attacks on public morale in the Reich, where food conditions are slowly deteriorating and where the people had been assured that they could not be bombed; and (3) the "softening up" of enemy forces preparatory to an invasion of the Continent at some later date.

The Libya flareup is an indecisive development, but if British forces, reinforced with American tanks and planes, can hold the Axis west of Tobruk through another summer, they will almost certainly be so heavily reinforced by fall that they can meet any attack that Rommel can stage.

● **Shortages Threaten China**—The battles in China are especially important, for now that Japan controls Burma, the Chungking armies are no longer able to receive outside supplies except as they can be flown into the country from India, or spared by Russia for delivery over the long road from Alma Ata. So far, the Chinese have offered effective resistance, but unless Japan is counterattacked elsewhere, the Chinese may soon run into an acute

shortage of all kinds of fighting equipment.

It is this long-term supply problem which is being tackled afresh in Washington this week, following the arrival of Oliver Lyttleton from London. Mr. Lyttleton is the Donald Nelson of England, and since he was placed at the head of Britain's Supply Ministry early this year he has tackled supply problems with such vigor that many old bottlenecks have been broken and some of the traditional reluctance of certain Britain manufacturers to adopt modern methods of mass production has been overcome.

● **Bulk of Goods to U.S.S.R.**—It is no secret in Washington that during the last three months nearly two-thirds of our lend-lease deliveries by value have been consigned to Russia. They have mainly included war equipment—tanks, trucks, planes, and machinery for Russian factories. Only limited supplies of food have been shipped to Russia—most of it in canned and concentrated form so it can be used at the front.

Britain, on the other hand, has been getting vast quantities of lend-lease food since last November, and, since it was decided to divert almost all war material to Russia in preparation for the spring drive, very little of anything else except bombers.

These supply schedules are now being overhauled and new plans drawn up covering a program of intensive bomber raids over Germany this summer, vast reinforcements before fall for the Middle East and the Mediterranean, and the building of the huge stocks of food and equipment necessary for the continental offensive which is being planned now for 1943.

● **No Drastic Changes**—What this means to American farmers and to American industry will not be revealed in detail until the conferences are ended, but few drastic changes are expected—merely a stepping-up of production schedules in special lines.

To tighten these joint supply operations Washington has invited Moscow and Chungking to join in the same kind of a lend-lease deal that we have with Britain. At the same time, Latin America is being drawn more closely into the program by the creation of a special import control division.



### ...start **HERE!**

A lack of adequate mass railway transportation in this country during the critical months that lie ahead, would be disastrous to our war effort. Only the railroads provide the mass transportation for moving the vast quantities of materials of war from mines, forests and farms—to mills and factories—to assembly plants and warehouses—to camps and ports.

Transportation experts, in and out of government, have publicly declared, that the American railroads are doing the biggest, most efficient transportation job in history. They are doing the job today because they have spent huge sums for new equipment and improvements of every kind. From September, 1939—at the outbreak of war in Europe—to December 31, 1941, the Norfolk and Western has authorized or expended more than \$60,000,000 for new cars and locomotives, expansion and betterments.

America is hitting its stride in the greatest program of mass production of war materials ever known. The railroads must provide more and more mass transportation. This means that the railroads must have more and more cars and locomotives, materials and supplies. Victory must and will be won.



## Norfolk and Western Railway

PRECISION TRANSPORTATION

CORP. 1942 N. & W. RY.

# HERE'S HELP ON "WHAT TO SAY" IN YOUR ADVERTISING TO THE MEN RESPONSIBLE FOR WAR PRODUCTION

*These booklets show how industrial Advertisers are meeting today's problems—and helping win the war*

● There's no thunder of guns in a business paper advertisement that describes a boiler tube cleaner in the language of a power engineer . . .

But every helpful suggestion, to the man with a problem, is helping win this war.

That's why manufacturers are digging deep in their data files, tapping their reservoirs of knowledge and experience, and passing their findings on—through the advertising pages of business publications—to the officers and non-coms in America's mighty Army of Production.

## *It's a Job for Business Papers*

America is fortunate in having the most highly developed business and industrial press in the world. Men in industry have always looked to these publications for help on their problems. War's demands have multiplied, and intensified, those problems.

So today's key men—veterans and "rookies" alike—are an eager, receptive audience for ideas, information—the "KNOW HOW" that will enable them to keep on top of their jobs . . . the job of turning out fast, essential military and civilian materials and equipment.

And where else can you talk with the chemical engineer, on a common ground of technical understanding, but in the technical paper he reads? Where can you discuss processes, products, services, with the mining man, the metallurgist, machine tool designer, electrical engineer—or any of the other important cogs in our great Industrial Army—but in the publication that is specifically designed to serve his basic interests?

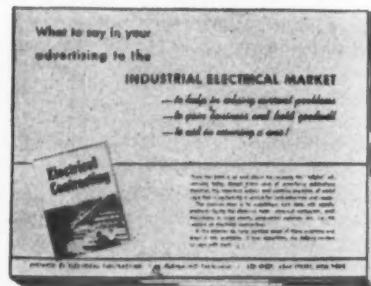
## *What Can You Say?*

These booklets are packed with suggestions . . . actual examples of how advertisers are helping themselves and contributing to the war effort. They show how helpful information is being tailored to the needs of specific industries. They're free—of course. Just indicate which field you are interested in—and mail the coupon.

## ELECTRICAL FIELD



"KNOW HOW" Advertising is Helping to Win the War. Current problems of the electrical field—how advertisers are helping meet them in ELECTRICAL WORLD.



How manufacturers are helping solve the problems of Electrical Contractors and men in charge of electrical departments in large plants. Actual advertisements from ELECTRICAL CONTRACTING.



Technical and practical data on the vastly expanding electronics field. "What to say" suggestions for ELECTRONICS' advertisers.

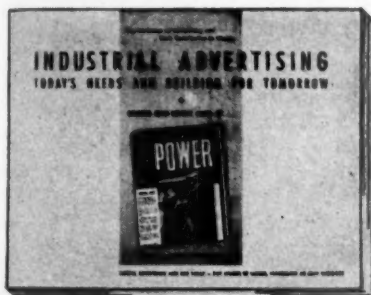




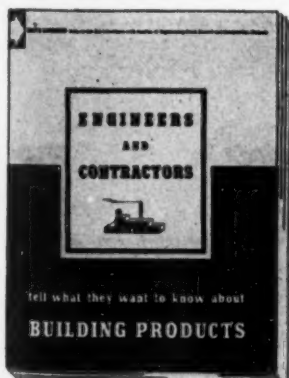
**METAL WORKING.** Questions in the Minds of the Metal-Working Production Men Today—and How Advertisers Are Answering them in **AMERICAN MACHINIST**.



**MINING.** Advertising in War Togs serves the essential mining industries. What manufacturers are saying to the readers of **COAL AGE** and **ENGINEERING & MINING JOURNAL**.



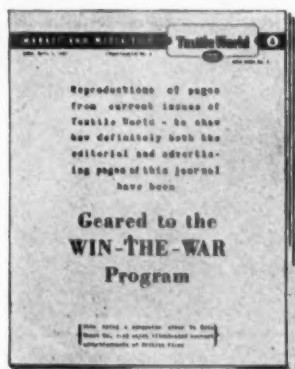
**POWER.** The kind of advertisements that will interest, and be helpful to, engineers, chief engineers and power consultants. Actual examples from the advertising pages of **POWER**.



**CONSTRUCTION.** What Advertisers Are Saying to the Engineered Construction Industry Today. How manufacturers are making their copy informative, and productive in **ENGINEERING NEWS-RECORD** and **CONSTRUCTION METHODS**.



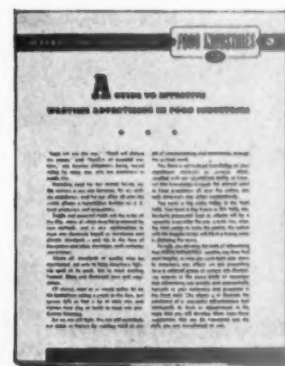
**MECHANICAL DESIGN.** What Mechanical Designers Want in Advertising Copy Today. Field interviews with design engineers—actual advertisements that talk their language in **PRODUCT ENGINEERING**.



**TEXTILES.** Reproduction of pages from current issues of **TEXTILE WORLD**—showing how editors and advertisers are contributing to the Win-the-War Program.



**CHEMICALS.** How to Develop Advertising that Clicks with Chemical Engineers Today. Helpful comments, suggestions—and many actual advertisements from **CHEMICAL & METALLURGICAL ENGINEERING**.



**FOOD.** A Guide to Effective War-time Advertising in **FOOD INDUSTRIES**. How advertisers are meeting current needs in this important field.

These Booklets are  
**FREE!**

USE THE COUPON

# McGraw-Hill

## PUBLISHING COMPANY, INC.

330 West 42nd Street, New York, N. Y.

McGraw-Hill Publishing Co., Inc., 330 West 42nd Street., New York, N. Y.

Please send me—Free, of course—the booklet, (or booklets) checked here.

- |  |  |                                       |
|--|--|---------------------------------------|
| <input type="checkbox"/> ELECTRICAL FIELD advertisements from: | <input type="checkbox"/> METAL WORKING | <input type="checkbox"/> MECH. DESIGN |
| <input type="checkbox"/> ELECTRICAL WORLD                      | <input type="checkbox"/> MINING        | <input type="checkbox"/> TEXTILE      |
| <input type="checkbox"/> ELECTRICAL CONTRACTING                | <input type="checkbox"/> POWER         | <input type="checkbox"/> CHEMICALS    |
| <input type="checkbox"/> ELECTRONICS                           | <input type="checkbox"/> CONSTRUCTION  | <input type="checkbox"/> FOOD         |

Name  Title

Company

Address

## WAR-CANADA'S MAJOR INDUSTRY

Starting from scratch, without factories or trained personnel—without blueprints, Canada's twelve million people in two years have built an armament industry. Guns, tanks, planes, ships, small arms, explosives—equipment of every kind, are now in mass production. Canada has built up a Navy from 15 to 400 ships. She has built, equipped, and maintained a fighting force of 450,000 men. She is playing the major role in the British Commonwealth Air Training Plan, one of the greatest schools for fighting airmen the world has ever seen. War is Canada's major industry today.

## The Royal Bank of Canada

Head Office—Montreal

This advertisement is published in the belief that our American Neighbours will be interested in the facts presented. More detailed information is available on request to The Director of Public Information, Ottawa, Canada.

## Experienced Hands



We're old experienced hands at making aircraft plywood. It's been part of our job for years. Our peacetime customers agree that our production facilities should be devoted to helping Uncle Sam get tough—to doing the important job first. We're eager to do our utmost in the war effort and we invite war industries using plywood for aircraft or other war material to make full use of our experience. Our plants are fully equipped to increase the production of aircraft plywood without delay.

**AMERICAN PLYWOOD  
Corporation**  
NEW LONDON, WISCONSIN



## GHOST TOWN

Residents of Darwin, only naval base on Australia's long, sparsely-settled north coast, fled to the interior when, following the fall of Singapore and the Netherlands East Indies, Japan

began bombing the city and threatened to use it as an invasion base. Although no raids have been undertaken by the Japanese lately, all activity now revolves around the air and naval barracks which are far from Darwin's main street.

## Advertising Limit

Canada imposes retroactive clamp on expenditures from war profits. New rules govern tea, coffee, beer, caskets.

OTTAWA—Canadian companies that went on an advertising spree in 1941, financing their fling on wartime profits which they figured they might as well spend as hand over to the Ottawa treasury in excess profits taxes, now find themselves out of luck. The money is spent but they are going to have to pay Ottawa just the same.

New revenue department rulings on business expenditures for the purpose of taxation do not discourage normal advertising appropriations. Actually, they encourage increased outlays where expanded profits and business turnover warrant them. But they nick firms which counted on getting a lot of extra advertising at the expense of the government by abnormal expenditure of profits on which excess profits tax rates range up to 75%. And the nicking is retroactive to last year's profits and outlays.

• **What Increases Are Allowed**—At the time of the last war loan campaign, special tax allowance was made for advertising expenditures by companies which devoted a portion of their advertisements to the loan campaign. This

agreement is being respected, but Ottawa last week laid down a definite limit on the increase in advertising expenditure which will be allowed as tax-free company expenditures. Here is Ottawa's formula:

A profits increase in 1941 up to 30% warrants a 5% increase over normal (average for 1936-1939), in advertising outlay; 30% to 40% profits increase, 7% more advertising; 40% to 50% profits increase, 9% more advertising; more than 50% profits increase, 10% more advertising; also, a turnover increase up to 60% secures an extra 5% allowance for advertising costs; a 60% to 80% turnover jump, an added 7% allowance; an 80% to 100% rise in turnover, 9%; more than 100% expansion in turnover, 10%.

• **Honor System—With a Club**—Price Ceiling Chief Donald Gordon trusts his fellow Canadians—up to a limit. As far as it has gone to date, his consumer rationing of foods is on an "honor" basis. Rations are fixed, but no ration cards or other rationing machinery is used. Consumers are trusted to observe the rationing orders—as are retailers and restaurant-keepers. But the fixed rations have the force of law behind them and persons who show themselves to be "without honor" in the matter are liable to stiff fines and jail terms.

Having been tried out for some months in the case of sugar and having worked to the satisfaction of the control administration, the system has been extended to tea and coffee rations. These

## American Production is Speeding the Day of Victory— And Century Electric Motors Aid Production

Machine Tools Powered  
by CENTURY MOTORS  
Produce Shells and  
Munitions of War



Photo by U. S. Army Signal Corps

### Freedom from vibration makes possible closer tolerances

● It is not by accident that so many machine tools engaged in the precision machining of shell casings and other munitions are powered by Century Motors.

For here is where extreme accuracy is essential above all; tolerances must be held to the closest of limits if shell and gun are to perform effectively and accurately.

Century Motors' remarkable freedom from vibration has proven extremely valuable in the operation of machine tools where speed, accuracy, and precision

—all three—are of vital importance. And Century Motors can keep up the 3-shift work day pace without layoffs, vacations, or rest periods.

In thousands of industrial plants throughout all industry, you'll find Century Motors on the job, helping to produce the sinews of War as well as the essentials of our civilian life.

If you have a motor problem involving both speed and precision in production, call in your nearest Century Sales Engineer without delay.



### CENTURY ELECTRIC COMPANY

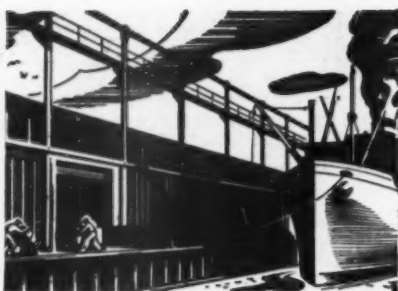
1806 Pine Street St. Louis, Missouri

Offices and Stock Points in Principal Cities

271

One of the Largest Exclusive Motor and Generator Manufacturers in the World





## Millions of Feet Say "This Wood Adds Long Life"

**DOCKS AND PIERS** and boardwalks—wood that has demonstrated its durability on such jobs will give you lasting economical construction. Wolmanized Lumber\* is that kind of wood. Examination of ocean-front installations employing millions of feet of this long-lived lumber for superstructures—some of it put there fifteen years ago—proves this.

**WOLMANIZED LUMBER** gives you this plus value without sacrificing the other very desirable advantages of wood construction: lower first cost, ease of handling and erection, light weight, strength, resilience. It is clean, odorless, and it can be painted.

**VACUUM-PRESSURE** impregnation with Wolman Salts\* preservative makes Wolmanized Lumber highly resistant to decay and termite attack. "Fibre fixation" prevents leaching or washing out of the preservative. The treated wood does not corrode spikes, bolts and metal fittings. Control of impregnating processes in Wolmanizing plants by one central laboratory insures a uniformly high-grade product.

**WOLMANIZED LUMBER** may be the key to faster construction schedules on your structures, and long life for postwar use. May we send you data? Write American Lumber & Treating Company, 1656 McCormick Building, Chicago, Illinois.

\*Registered Trade Mark

**WOLMANIZED  
LUMBER**



are now rationed to one-half the quantity of tea and three-quarters the quantity of coffee normally used by any person. In the absence of evidence to the contrary, it is presumed that no person normally uses more than two ounces of tea a week or more than twelve ounces of coffee. Householders may not buy in any week more than a two weeks' ration for every member of the household, and retailers and restaurant keepers may stock only a month's supply.

• **Social Functions Hit**—The order disrupts social customs. Afternoon teas of women's war organizations have quickly become few and far between; in many instances cold drinks are being served in place of tea. Men's informal "coffee clubs" that convened in shops where additional cups of coffee were served for the asking are fading out because extra servings are barred.

The consumer's sugar ration is cut from three-quarters of a pound to half a pound a week, and commercial users who formerly were allowed 80% of normal supplies are now reduced to 70%.

• **Regimenting Caskets**—Indicative of Ottawa's determination to keep down not only the cost of living but also the cost of dying are drastic new restrictions to standardize caskets in order to keep them under the price ceiling. Issued by the controller of furniture, they set up specifications for various grades of caskets, stipulating sizes, qualities of materials, numbers and qualities of accessories. In the low price range it is provided, for example, that only lining of "the cheapest rayon procurable" may be used.

• **Confining Beer Distribution**—Restrictions on cross-hauling start with draft beer. Brewers situated below the 46th parallel of latitude in Ontario and Quebec are barred from delivering beer in barrels or kegs in territory north of that parallel, and vice versa. Quebec brewers are cut off from customers in Ontario west of Toronto and Hamilton, and Western Ontario brewers must give up their Eastern Ontario trade. The move clears the way for curbs on long-distance and local bread deliveries because bakers were prepared to protest if beer deliveries were not also included in any ban on cross-hauling.

Restrictions on additional sporting goods lines—fixing numbers and varieties of golf clubs, golf and tennis balls, badminton and skiing equipment, and prorating production among manufacturers are among the latest price control orders. Further simplification of packages and containers is decreed.

• **Pushing Furnace Conversion**—Munitions Minister Howe, speaking on the advice of Oil Controller Cotrelle, threw thousands of Canadian householders into a mild panic recently by announcing a complete shut-off of fuel oil for oil furnaces. Home owners were bluntly warned that they would have to convert

to coal-burning equipment. Owners of furnaces manufactured for oil exclusively foresaw a shivering winter, with coal furnaces unobtainable and their oil equipment not convertible. But Howe qualified his ruling the next day by stating that oil would be provided for those who could not convert their heaters.

• **On the Conscription Spot**—The possibility of a national war government for Canada appears stronger now than at any time since 1939. Prime Minister Mackenzie King is in a difficult situation as a result of the plebiscite on conscription for overseas service. The eight English-speaking provinces gave a vote of between 80% and 90% for conscription, while French Quebec voted strongly against it. One Quebec Cabinet minister has resigned in protest against King's insistence on removing the restriction on conscription from the National Mobilization Act, and a large group of Quebec members of the Commons promise to resist the amendment.

At the same time, however, other French cabinet ministers are assuring Quebec that King does not propose to apply conscription to overseas service. His failure to do so may bring a break-up of his government, with pro-conscription English-speaking ministers quitting. One of them may attempt to form a total-war non-party government to satisfy sentiment in the eight conscriptionist provinces. But another possibility is that King may seek to retain power by springing another federal election.

## CBS LATIN NETWORK

Delayed several months by material shortages, the Columbia Broadcasting System's Latin-American network (BW—Jul.19'41,p32) is now in operation. Formally labeled "The Network of the Americas," it embraces 76 stations in 20 sister republics, and is bound together by five-year contracts.

Advertising, which CBS had hoped to project south of the border on the same terms as govern the U. S. variety, is, of course, definitely crimped by the war. Nonetheless, the hookup will operate seven days a week from 4 to 11 p. m., will thus be oiled up for post-war days.

Unlike some of its colleagues, CBS is not using shortwave signals to reach Latin-American listeners directly. Instead, the high frequencies are employed only to convey the program from New York to affiliated stations in the neighbor nations. There the signal is re-broadcast as a regular long-wave emission, reaches the listener in the customary local-station manner. When advertising does become possible, it will be sold only via blocks of stations (similar to the U. S. network system). The proceeds will be split 50-50 between CBS and its affiliates.

*The burning question*

**HOW CAN I GET  
MORE GROUND PARTS  
WITHOUT  
MORE GRINDERS**

***First possibility: Change the grinding wheel.***

***Second possibility: Change the grinding method.***

**Try one, try both — but preferably on the advice of experience.**

**Norton field men or Norton distributors' men in the locality may be just the reinforced manpower your shop needs.**

**Many times they've turned production defeat into production victory.**



**NORTON ABRASIVES**

**NORTON COMPANY, WORCESTER, MASS.**

GRINDING DIVISION, NEW YORK



**K** EY MEN in government and industry require fast, dependable transportation. That's where Union Pacific Streamliners play an important part. They are on the job—day in and day out.

And so it is with Union Pacific freight service. Production and assembly plants demand a steady stream of materials and parts. Union Pacific freight locomotives, powerful giants of the rails, are keeping 'em rolling so that Uncle Sam can "keep 'em flying."

\* \* \*

Today, our Nation's war program comes first and Union Pacific is cooperating to the fullest extent. We appreciate the patient understanding of travelers who are not always able to obtain the accommodations they desire. Our thanks to you for your past and future cooperation.

*The Progressive*  
**UNION PACIFIC RAILROAD**  
*The Strategic Middle Route*

## MARKETING

### Freer Deliveries

Eastman postpones until July 1 time when trucks must get 75% load on return runs, changes ten other rules.

At the eleventh hour, the Office of Defense Transportation has amended its restrictions on the use of rubber-tired commercial vehicles, thus granting industry a reprieve from the much-castigated orders.

• **Not without Precedent**—Because Joseph B. Eastman, ODT chief, had indicated practically up to the last minute that he would stand pat on the original rules, the amendment was something of a surprise. On the other hand, Washington's record with respect to the complex distributive industries is not without its previous samples in this pattern. First comes order-writing; later there's the changing, revising, shaking down. OPA, for instance, has had to pry loose pieces of the price-control order. WPB has just finished tearing up the first draft of its inventory control measure.

Among the revisions and blue-penciling of the trucking order issued by ODT, the provision requiring a 75% return load for "over-the-road" trucking operations (non-urban hauls) has been postponed until July 1. This means that during the next month common, contract, and private carriers may return from their destination empty if no return cargo can be found. In the interim, ODT hopes that the private carriers can work out some kind of joint action that will be superior to government regulation.

• **ODT Amendments**—Regulations governing local deliveries (under Order 6) have been changed in ten major respects:

(1) The definition of a local delivery now is a haul not greater than 25 air-line miles beyond the corporate limits of municipalities. The original definition merely stipulated "hauls which do not exceed 15 miles in length."

(2) A delivery outside the 25-mile limit will nonetheless be considered a local haul if it's strictly a retail delivery.

(3) A local carrier may make an additional delivery on the same day to the same point if the commodity to be transported requires a vehicle exclusively adapted to that commodity. The object of this revision is to permit, say, a dairy company to handle milk and ice cream separately.

(4) A local carrier may make one delivery per day from any one point of origin to any one point of destination. This will permit—by way of example—a



bakery operating separate bread and cake plants to reach the same customer on the same day from each outlet.

(5) Shippers as well as carriers are now included under the regulation.

(6) Trucks engaged exclusively in the pickup or delivery of telegraphic, radio, and cable communications, and the U. S. mails are exempt.

(7) Coal trucks need not reduce ton-mileage 25% until July 1. This will permit more fuel deliveries this summer, cut down later peaks.

(8) Trucks equipped primarily for the transportation of bulk liquids do not come under the regulation until July 1.

(9) Driver-salesman vehicles—often operated by bakeries, ice-cream makers, etc.—are removed from the jurisdiction of Order 5 into the jurisdiction of Order 6. That means that vehicles of the driver-salesman type must reduce mileage 25%.

(10) As predicted (BW—May 2 '42, p46), the rules governing newspaper deliveries have been relaxed.

• **Spreading the News**—Newspapers are granted the choice of alternate delivery systems. The first calls for a simple 40% reduction in mileage. The second gears the number of deliveries to the population of the area served. Under the second plan, a paper serving a population of less than 200,000 (if it chooses to use this plan) may make only one delivery per day to any point. Papers with a 200,000 to 700,000 area may make two deliveries; 700,000 to 2,000,000, three deliveries; over 2,000,000, four deliveries. However, Plan No. 2 must additionally be accompanied by a 25% reduction in delivery mileage.

• **Need for Education**—ODT is now being asked by industry not to make any new rules effective until their contents are well circulated. Complaints are rife that some areas observe new rules while others don't, and that the net effect is a hopeless transportation muddle. Bigger and better educational campaigns, say the truckers, should accompany each ODT move.

## GROCER'S OWN BUS LINE

An idea for food markets and other enterprises whose customers have depended on automobiles came to light recently when permission to operate a bus line at a loss was granted by the Los Angeles City Board of Public Utilities to A. Guy Frum, a grocer in Beverly Glen.

Frum figured \$100 a month as his deficit, and invited investigation of his financial rating to prove ability to "take it." City Engineer K. Charles Bean thought that with a five-cent fare for cash riders, and weekly passes at \$1, the line should bring in around \$13.20 daily, cost \$16.52 to operate, making the deficit \$83 a month.

# Time is short\*\*\*—

use this Prefabricated Steel Structure

## SPEED PRODUCTION OF VITAL WAR EQUIPMENT with LINDSAY STRUCTURE

Truck and Trailer Bodies  
Barge Deck Covers  
Boat Superstructures  
Floats and pontoons  
Troop Sleeper Caravans  
Refrigerated Store-houses  
Shipping Containers  
Frozen Beef Containers  
Hangars  
Sentry Boxes  
Portable Guard Houses  
Bunk and Mess Houses  
Radio Equipment Housings  
Searchlight Housings (Dust Proof)  
Fire-fighting Apparatus  
Partitions (Movable), Office, Storage, etc.  
Processing Rooms and many others

10 Extra men can be carried on this Army work truck because of Lindsay Structure! New body construction increases strength—reduces weight nearly a ton.



Ideally suited for expanding or changing production needs! The Ls in this drying room can be disassembled and reassembled in practically any desired shape.

## FOR FAST, UNIFORM ASSEMBLY

Die-Cut to Your Exact Required Dimensions

- ✓ no trimming—no fitting
- ✓ no welding—no riveting



55 Man-minutes and this strong housing is completely assembled! Lindsay Structure saves time.

**What is Lindsay Structure?**  
It's the modern, tested, and approved method of using sheet steel in a light structure of tremendous strength and rigidity.

Prefabricated to any desired size. It can be adapted to your exact requirements.

Lindsay Structure can be assembled by unskilled labor. No trimming, no waste, no welding.

SEND BLUEPRINTS. We will engineer Lindsay Structure to your requirements. Lindsay Structure Division, Dry-Zero Corporation, 226 North Bank Drive, Chicago.

# LINDSAY STRUCTURE

U. S. Patents 2017629, 2263510, 2263511  
U. S. and Foreign Patents Pending

LINDSAY STRUCTURE CAN SAVE THOUSANDS OF TONS OF STEEL PER MONTH

**IT'S JUST  
AS IMPORTANT FOR ME TO KNOW  
THE EXACT MEASUREMENTS OF MY  
STORED LIQUIDS AS IT IS FOR ME TO  
KNOW MY PRODUCTION COSTS**



Accurate information concerning the levels of all liquid assets makes efficient control of stored liquids a much simpler task. A LIQUIDOMETER tank gauge on the job insures correct indications or recordings at all times.

**LIQUIDOMETER** Remote Reading tank gauges function automatically—no pumps, valves or auxiliary units required to read them. Balanced hydraulic transmission system ingeniously compensates for temperature variations on communicating tubing. Accuracy unaffected by changes in specific gravity.

Models are available for Remote Signals, automatic control of pumps, etc. Direct Reading models are also available where remote reading is not desired.

**LIQUIDOMETER** tank gauges are approved by Underwriters' Laboratories and other like bodies for gauging hazardous liquids.

Write for complete details  
on **LIQUIDOMETER** instruments.

**THE LIQUIDOMETER CORP**

38 12 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

## This you can buy

There is no priority  
ban on the purchase  
of life insurance.

Protect your  
dependents!



**The Prudential**  
Insurance Company of America

Home Office, NEWARK, N.J.

## Bottle Cap Blues

WPB order curtails use of blackplate for beer and soft drinks, marking third phase in drastic container program.

Issuance of a War Production Board order this week limiting the use of blackplate for beer and nonalcoholic beverage bottle caps represents the current transition from the second to the third phase of a three-point government program which will revolutionize the packaging of foods, drugs, cosmetics, and other consumer goods for the duration. The board had previously prohibited the use of extremely scarce tinplate and terneplate for beverage crowns and caps.

• **Plates and Their Uses**—Blackplate is plain, uncoated sheet steel plate which is used for the manufacture of metal containers and glass container closures. While some foods, drugs, cosmetics, and other consumer products, particularly dry items, can be packed in blackplate, a large number of products spoil when they come in direct contact with uncoated steel.

Thus, in peacetime, blackplate is normally coated on one or both sides to form tinplate. Major use of tinplate, of course, is for canning and packaging foods.

Terneplate is blackplate coated on one, or both, sides with a lead-tin alloy.

Because of the lead content, this does not make a suitable container for many foods. However, because corks, plastics, or paper is used on the inside of bottle crowns and caps, and other closures, it is possible to use either blackplate or terneplate for this purpose.

• **Scramble for Supplies**—When WPB issued its first glass container closure order on April 3, a mad scramble developed among a number of industries desperate to obtain a share of the rapidly dwindling supply of blackplate. Since the original closure order forced industries such as beer and soft drinks out of tinplate and terneplate, the question of getting a toehold on blackplate supplies became a matter of life or death.

This week's order means that these two industries can live on a somewhat restricted basis. Their use of blackplate for crowns and caps will be limited to 60% of the tinplate, terneplate, and blackplate used for the same purposes during 1941. In computing their 1941 base, beer men can use a certain factor to represent the amount of beer packed in cans last year—cans which are now on the prohibited list.

• **Caps Set the Output**—Taking into account certain current conservation measures in crown and cap manufacturing processes, this means that the two industries can produce up to 70% of the number of units produced in 1941. As yet, there is no substitute for the little crowns or caps found on beer and soft drink bottles.

In addition to the above conservation



## TRANSFER

Like many other newspapers which have recently rediscovered the value of horsepower of the original and genuine variety, The Times-Herald of Dallas is not only using horse-

drawn wagons for short-haul deliveries of papers but has gone a step further by hiring street cars to deliver papers to carriers in residential districts that were formerly serviced by motor trucks. Papers move from plant to wagon, to street car, to reader.



## 80% OF NAVY "E" WINNERS USE KARDEX PRODUCTION CONTROLS\*

*Serving America with*

### **FACT POWER**

Kardex Production Controls  
Kardex Procurement Controls  
Kardex Personnel Records  
Kardex Progress Controls  
Kardex Tool Crib Controls  
Kardex Machine Load Controls  
Kardex Material Controls  
Kardex Cost Controls

... Kardex for every production problem

*But did KARDEX help them increase production . . . . . ?*

Let's take the case of the Bath Iron Works, up in Bath, Maine. They're building ships for the Navy, flying the Navy's "E", too.

Bath Iron use Kardex for administrative functions vital to their whole production program. *Procurement*, for example. *Personnel, Inventory Control*.

Bath's KARDEX PROCUREMENT RECORD is a "self starter." Shortly before a delivery is due—before it has a chance to hamper production by arriving late—this Kardex record *signals* that follow-up action is needed. One clerk handles thousands of outstanding purchase orders—without instructions from "higher-ups."

Bath's KARDEX PERSONNEL SYSTEM is equally self-analyzing. Every important factor—from payroll data to employee aptitude—can be examined and recapped at a moment's notice, in a fraction of the usual analysis time. Again, it's *signalling* that does the trick!

Bath's KARDEX INVENTORY CONTROL keeps stock in line with government limits, prevents exhausted stores by accurately estimating production needs. It's the most scientific of all materiel inventory records—yet it's simple enough for the office boy to handle!

Important factors . . . *Procurement, Personnel, Inventory* . . . more than mere "paper work." *Control Factors* that must be geared to the speed of the production line . . . that *determine* the speed of the production program.

That's why 80% of the Navy's crack contractors think of records as an integral part of their production lines. That's why they use Kardex—the *administrative machine tool* that gets things done faster . . . smoother . . . without delay.

*Mr. War Contractor, if YOU need any administrative machine tools, we've got a big data file over at our office. Plenty on tap there. Experience—proved in practice by the nation's top producers. Look up my number in the phone book. I can get over right away.*

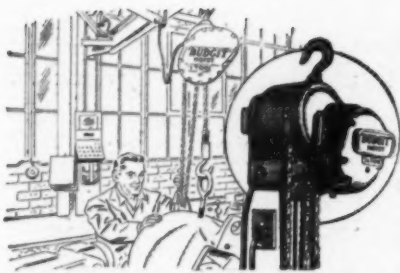
YOUR REMINGTON RAND SYSTEMS REPRESENTATIVE.

\*To April 3, 1942, the Navy had named 183 awards.

# REMINGTON RAND

**KARDEX**  
*visible systems of*  
**PRODUCTION CONTROL**





## Multiplied muscles

**W**HERE manual lifting delays production, an electric 'Budgit' Hoist increases the output of the worker. All his muscular strength and mental energy are then devoted to the job—not to wasteful lifting. Hang up, plug in and use. Those are the only installation instructions. Throughout the whole country many thousands of 'Budgit' Hoists are serving war industries. They are especially valuable when older men and women are called into the production line.

'Budgit' Hoists are portable, electric hoists with lifting capacities of 250, 500, 1000 and 2000 lbs. They are priced from \$119 up. For complete information, write for Bulletin 348.



**'BUDGIT'**  
*Hoists*

**MANNING, MAXWELL & MOORE, INC.**  
MUSKEGON, MICHIGAN

Builders of 'Show-Box' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of Ashcroft Gauges, Hancock Valves. Consolidated Safety and Relief Valves and 'American' Industrial Instruments.

## SAVE WORKERS' TIME



### Guard Against Lost Man-Hours with Improved Wash Fixtures

From 8 to 10 persons can wash simultaneously at a Bradley.

Lost man-hours from whatever cause are a serious menace to wartime production. Physicians experienced in industrial work claim Dermatitis (skin affection) is a major source of lost man-hours. They place proper washing facilities first among preventive measures.

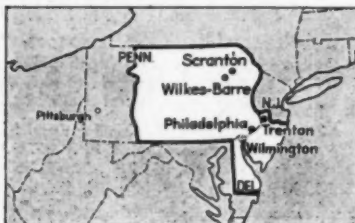
Bradley Group Washfountains are providing more essential service today than ever before. Each Bradley serves clean sanitary spray of running water to each of 8 to 10 persons simultaneously. The self-flushing deep bowl prevents collection of water and possible contamination. Time and space are saved, and water consumption reduced by 70%. Helpful suggestions are contained in our "Washroom Layout" booklet—write for a copy.

**BRADLEY**  
WASHFOUN-  
TAIN CO., 2225  
W. Michigan Street,  
Milwaukee, Wis.

**BRADLEY**  
Washfountains

## The Regional Market Outlook

**PHILADELPHIA** (Income Index—147.3; month ago—145.9; year ago—121.8)—Reflecting the concentration of war work in the eight counties around this city (including Camden, Chester, Norristown, etc.), population has grown by 300,000 to 3,500,000 during the past two years. Factory payrolls are running 60% ahead of 1941, as against 40% in the nation. New awards promise sharp aircraft and ordnance, as well as shipbuilding, acceleration.



37,023 sq. mi.

pop. 7,777,910

**CHICAGO** (Income Index—152.0; month ago—152.3; year ago—127.4)—Factory payrolls in this Reserve district now are above last autumn's peak, and are running 25% ahead of year-ago levels. Michigan—with nearly half the region's manufacturing—is the laggard. Industrial wage payments there are up but 10% to 15% above 1941, as against 35% in other predominantly heavy-goods areas here.

Meanwhile, armament activity is accelerating, as a result of plant conversion and factory building in a whole host of cities throughout the district. Giant new works are under construction around Detroit and this city, particularly. Major expansion in employment, therefore, is in prospect over the next twelve months or more.

Farm income in almost all sections of this beef, pork, and dairy-producing region continues to register 50% increases over 1941 receipts. Thus rural

gains have been less striking in the rest of the district, except at such "hot spots" as Berwick, Williamsport, and Wilmington. Allentown-Bethlehem-Harrisburg-Lancaster-York, and Altoona-Johnstown rate "about average." And manufacturing employment is "slow" in Trenton, Scranton, and Reading.

Anthracite output has jumped more than 50% above 1941 in the last two months. Unseasonal buying for stock has pyramided on the anticipated diversion of demand from fuel oil and coke, and a decline is expected in a month or two. Thus towns in the hard-coal area are still pressing for new war plants to halt the emigration of labor, estimated at more than 50,000 during the last two years.

Farm income is running 25% above last year, only half the national gain. Livestock and dairy receipts are rising, but agricultural areas in this district may continue to lag behind industrial.

sales potentials have improved more than urban in recent months. The weather has been favorable to crop growth and pasturage and, with prices up sharply, the outlook for agriculture is excellent.

This district's income ranking vis-à-vis the nation—which has declined in the past half-year—is now likely to perk up. The sharpest gains are certain to come in Detroit and other priorities-struck centers.



190,446 sq. mi.

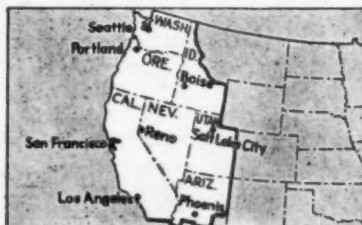
pop. 19,406,389

**SAN FRANCISCO** (Income Index—170.4; month ago—168.9; year ago—133.4)—The four Pacific Coast industrial areas—embracing 50% of this district's population—continue to head the income advance here. And shipbuilding, in which employment will have more than doubled to 400,000 during 1942, is providing the primary impetus.

The Pacific Northwest, with 40% of the ship work and important new aluminum and magnesium plants, is

now pacing the rise. War jobs will jump 50% in Seattle-Tacoma and 100% in Portland-Vancouver by the year's end. The 'San Francisco-Oakland area, including shipbuilding Richmond, Vallejo, and Napa, also is forging ahead, but more moderately. And gains in the southern California aircraft area centering about Los Angeles, which in the early days of defense outstripped all others, are now beginning to taper off relative to the other regions.

Agriculture predominates in the rest of this widespread territory with military bases, arms plants, and mining and lumbering industries scattered. Early farm income is up 65% to 100% from 1941 in California, Arizona, Nevada, and Idaho, although only 20% to 30% ahead in Washington, Oregon, and Utah. Prospects, based largely on the crop outlook (BW—May 9 '42, p. 65), continue bright, despite recent poor range and pasturage conditions.



485,436 sq. mi.

pop. 11,280,195



*... That's Where We're Expanding for  
Greater War Production!*

• The people of the Gulf South stand ready to cooperate faithfully with American industry for faster, greater war production. They're eager for a bigger share in America's victory!

The Gulf South invites industries seeking war production expansion and suggests, too, that here is an unusual opportunity for peacetime production and markets.

Here are some of the Gulf South's advantages: plenty of willing labor . . . basic raw ma-

terials . . . excellent transportation facilities by land, air and waterway. Industrial sites are plentiful. There are good schools . . . ideal living conditions, and industry's No. 1 fuel . . . NATURAL GAS.


Let us give you more information on the Gulf South in relation to the requirements of war production and peacetime markets. Without obligation we will be glad to make a survey for you. Your inquiry will be kept strictly confidential.

For information on GULF SOUTH opportunities write to  
DIRECTOR OF INDUSTRIAL DEVELOPMENT

## UNITED GAS PIPE LINE COMPANY

FOR TEXAS, Mail received at: Beaumont, Beeville, Dallas, Fort Worth, Houston, Longview, San Antonio and Wichita Falls. FOR LOUISIANA, Mail received at: Baton Rouge, Lake Charles, Monroe and Shreveport. FOR MISSISSIPPI, ALABAMA and FLORIDA, Mail received at: Jackson, Mississippi.

ALL INQUIRIES CONSIDERED CONFIDENTIAL



**THE GULF SOUTH  
INVITES INDUSTRY**

... industrial opportunities galore . . . rapidly growing markets . . . plentiful land . . . ideal living and working conditions in a mild year-round climate . . . good schools . . . quick, convenient transportation . . . abundant, dependable Natural Gas.

BUY UNITED STATES WAR SAVINGS BONDS AND STAMPS . . . HELP WIN THE WAR!

COPY, 1942 UNITED GAS PIPE LINE CO.

measures, beer and soft drink distributors may be able to maintain sales figures at a level somewhat higher than 70% of 1941. Already West Coast breweries and bottlers have been working on a self-imposed plan which involves the sale of larger bottle sizes. By doing this, they have tried to build up an advance demand for larger bottle-sizes which would eventually result in higher production with the use of fewer caps.

The order also prohibits the use of blackplate for closures on wine or distilled spirits after August 1. This apparently will force these lines over even further into plastics for closures, as the previous order put the wine and whisky

industries out of tinsplate and terneplate. Between now and August 1, use of blackplate closures on wines and distilled spirits is limited to using up current inventories.

Another provision of the order fits in with the West Coast program designed to get consumers to buy larger size bottles. This provision prohibits the use of closures on glass containers which hold less than 12 ounces of unflavored carbonated, natural, or mineral waters.

• **Evolution of Program**—The three phases through which the government's container program has gone, and is going, can be outlined as follows:

(1) Throughout the "defense" program, the government progressively took stronger

control over metals, plastics, paper, and other container and wrapping materials. In the main, this control was exercised through over-all, general orders allocating the distribution of these materials to various industries.

Containers felt the effect of these orders only indirectly because they generally dealt with the raw material itself. In a few instances, in the closing days of the defense program, the end use of the container raw material was mentioned in the general orders—use of aluminum for collapsible tubes was prohibited, or use of copper for compact lipsticks, and other cosmetic containers was banned.

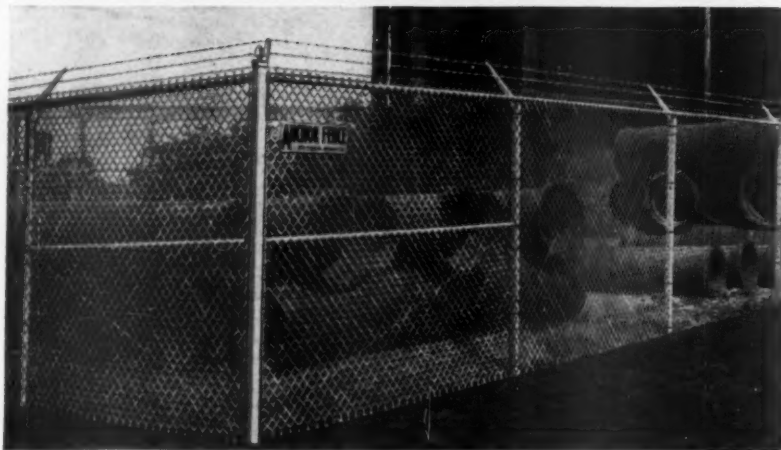
(2) Starting with the declaration of war, the government began issuing orders dealing with containers or component parts of containers. Biggest in this field was the tin can conservation order issued in February. This order limited the use of tin cans to a specific list of products, primarily foods. In addition, this order prescribed how many cans could be used for certain products, and the sizes in which these products must be packed.

Then came the original closure order, followed by a limitation on the use of rubber for sealing these closures to their glass containers. Final step was the basic glass container order, which froze all current glass container designs and established a system for standardized containers to replace existing special design molds when they wear out.

(3) Final phase of the government's container conservation program will see the issuance of a number of specific end product orders. These orders will say that specific products can use only this or that container material—that the containers can be made only in certain sizes, styles, and shapes. For example, all cosmetic creams may be limited to three sizes of jars.

Major reason for the third point in the program is this—the first two phases forced a number of products out of their traditional container materials and sent them scurrying into fields of less scarce materials. The buying competition thus created put heavy burdens on the less scarce materials—paper and glass, for example—and resulted in a situation where less important products were placed ahead of more important products, based on the suppliers' own judgment. The end product orders will take control of this situation.

## How to Expand Your Plant without waiting to build!



## Use the Outdoors for Storage -- behind an ANCHOR FENCE

IN these troublesome times, an Anchor Fence around your plant does double duty: (1) It releases valuable indoor space for production by permitting safe bulk storage outdoors; (2) it shuts out trouble-makers by controlling incoming traffic—with minimum expense for guards and maintenance.

For more complete protection against spies and saboteurs, defense plants also need special Anchor enclosures within the plant—to keep unauthorized persons away from power stations, transformers, chemical and material stocks, fuel supplies and other vital points.

Anchor Fences can be quickly erected in any soil, in any weather, even when the ground is frozen. The exclusive, patented, driven "Anchors" hold the fence

erect and in line, resist terrific force, yet can be moved without loss in case of plant expansion.

Send for an Anchor Fence Engineer. Get the benefit of Anchor's 50 years of industrial fencing experience. Write for Fence Catalog—and name of nearest Anchor Fence Engineer. Anchor Post Fence Co., 6670 Eastern Ave., Baltimore, Md.

1892-1942 Fifty Years of Service



**NATION-WIDE SALES AND ERECTING SERVICE**

## NETWORKS WIN A ROUND

The Supreme Court has ruled that the National Broadcasting Co. and the Columbia Broadcasting System are entitled to a legal review of the Federal Communications Commission's "anti-monopoly" regulations (designed to curb the power of the major networks). This decision reverses the opinion of a federal statutory court in New York which three months ago said it had no authority to grant an injunction because the FCC edicts weren't genuine rules, but merely a "declaration of conditions" (BW—Feb. 28 '42, p. 7). In a nutshell, the result of this protracted legal furor is that the FCC regulations are again stalled, and that the networks have gained another breathing spell.



# PRODUCTION

## New Life in Coal

Industrial boom is a help, restrictions on other fuels add impetus, new devices bring hope of holding gains.

Coal is going places. Heavy demand for industrial fuel is playing its part. Restrictions on the use of natural gas and of petroleum products in certain areas are reopening a competitive market that had appeared closed. On top of everything else, the coal people are doing their utmost to retain permanently as much of the gains as they can through research.

• **Conference Is Hopeful**—Just how far research can go in helping coal's comeback remains to be proved, but there was an atmosphere of undisguised optimism pervading last week's conference and demonstration of Bituminous Coal Research, Inc., at Battelle Memorial Institute, research headquarters of the organization, at Columbus, Ohio.

What about the new smokeless room heater, the two smokeless furnace stokers? What should be expected of the industrial forge furnace using pulverized coal and of the pistonless, turbineless water pump which gets its lift directly from the combustion of powdered coal?

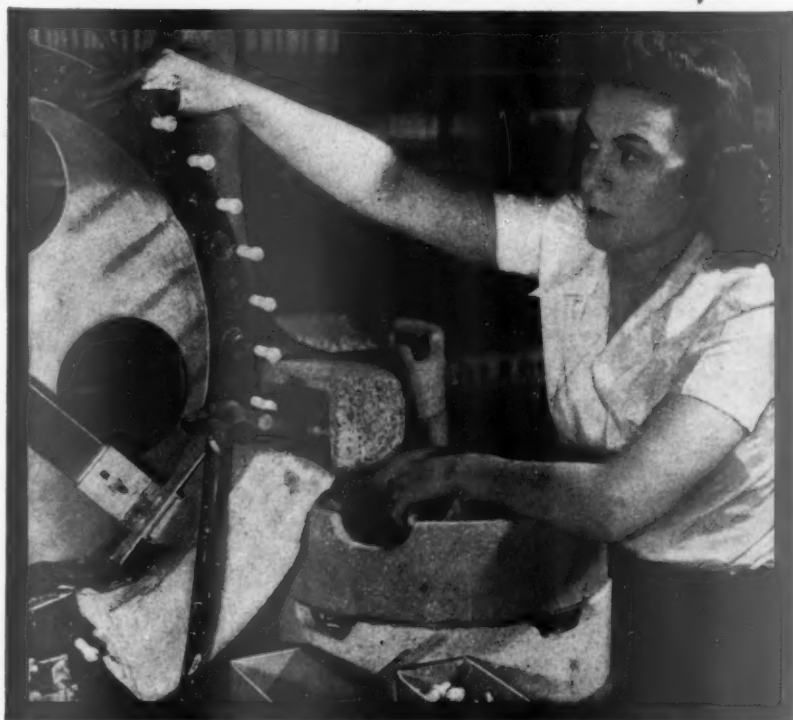
• **Models on Display**—These questions weren't answered directly for the conferees with the possible exception of those concerning the forge furnace. Yet laboratory and pilot plant models of several new coal-burning devices were complete to the point of before-the-eyes demonstration, and that contributed no little to the prevailing hopefulness.

In the years since the research program was initiated, annual production of bituminous for all purposes has risen 35% (from 333,600,000 short tons in 1933 to 452,000,000 in 1940), and the industry is cheering loudly about the gain even though petroleum production has climbed 49% in the same period. Their output had been pretty steadily on the skids since an all-time high of 580,000,000 tons back in 1918, so that any gains at all have been very welcome.

• **Joint Program**—Need for invigoration caused the launching of the research program in 1933. It was financed by nine bituminous coal associations, 65 producers, three railroad companies, and the Battelle Institute.

Much of the research has been into industrial applications, as the exhibits at Columbus last week clearly showed. Yet the market for home heaters hasn't been lost sight of by any means; dwellers in

# ★ AMERICA ★ ★ WORKING ★



To make America's motors hum! She runs a glazing machine in the plant of the Champion Spark Plug Company, where R & M Moyno Pumps help speed war production.

## • • R & M helping • •

**PUMPING** highly abrasive "slip" for aircraft spark plug insulators is one of this industry's toughest jobs. But it's all in the day's work for Champion's R & M Moyno Pumps! They increase output by delivering constant, bubble-free flow—and by phenomenal wear-resistance and extreme accessibility that cut shutdowns to a minimum.

★ R & M Moyno Pumps are making countless "impossible" pumping jobs look easy in all kinds of war work. Other R & M products are doing a vital job, too . . . R & M hoists and cranes that handle big loads quickly and safely; motors that stand up under the most grueling conditions; motor drives that speed up machine tools; fans and ventilators that help workers maintain peak production.

★ Yes, we are busy with war work! But our expert representatives are never too busy to help you find the answer to your pumping problems. Write us. The address, since 1878, is Robbins & Myers, Inc., Springfield, Ohio.

*Moyno pumps are manufactured under R. Moineau patents*



MOTORS ★ HOISTS ★ CRANES ★ FANS ★ MOYNO PUMPS

★ **WORKING WONDERS**  
★ **IN WAR-TIME**  
★ **PLASTICS**

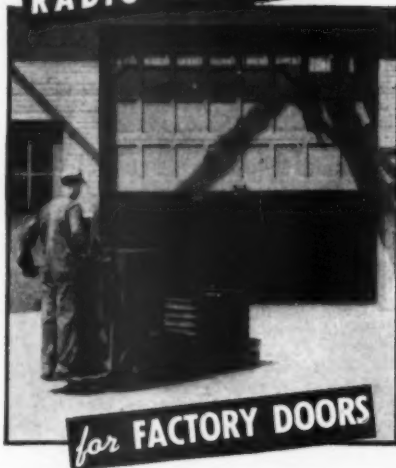


★  
**at ERIE RESISTOR**

**A**S one of the pioneer injection-molders of plastics, Erie Resistor has an organization trained in both the theoretical and practical phases of this rapid, economical method of molding. These men are working wonders in turning out a variety of intricate custom-molded articles for war-time use. Erie's design-engineering service and ample production facilities are awaiting your inquiry for moldings up to 16 oz.

Plastics Division  
**ERIE RESISTOR CORP., ERIE, PA.**

**RADIO CONTROL**



**OPENS AND CLOSES DOORS  
FROM A BUTTON ON THE TRUCK**

Here is a substantial time-saver and man-saver for busy war production plants. Delays from stopping to open and close locked doors are eliminated; door tenders can be placed on more important jobs. Cost of control units is surprisingly low, operation thoroughly reliable. Write us, or see your Barcol representative, for full information.

**BARBER-COLMAN COMPANY  
ROCKFORD - ILLINOIS**

homes with central heating and air conditioning probably don't often think of it, but some 40% of the houses in city and country are still heated by stoves, and about 1,000,000 coal- and wood-fired heaters were sold in 1939.

• **Smoke Elimination**—With cities becoming increasingly smoke-conscious, much of the work on coal for home heating has concerned itself with smokeless devices (BW—Apr. 19'41, p52). Bituminous Coal Research's smokeless room heater is under wraps until a patent situation is cleared up, but it is nevertheless described as one that "holds enough coal for twelve hours of operation" and "burns high- and low-volatile coals to comply with smoke conditions." A companion device is a water heater built on the same principles.

The coal researchers have kept plugging indefatigably at their multimform projects and problems. Already complete are studies on the relative costs of heating residences with various fuels, relation of size of coal to stoker performance, principles of combustion, principles of clinker formation, relation of combustion space and boiler-setting height to smoke emission.

• **Forge Conversion Practical**—Manufacturers of drop forgings, hand forgings, and other items that must be heated for working even now can test tangible results of the research. Their furnaces, particularly the slot type, can be converted to pulverized coal now (with the necessary priorities for equipment).

Such a conversion provides two burners located on opposite ends of the firing chamber. Products of combustion leave the chamber through the same narrow horizontal slot through which steel bars and parts for forgings are inserted into the furnace. The usual compressed air screen deflects the flames and gases upward into a hood and out of a stack.

Any fine ash that might be deposited on the steel comes off readily with the scale formed during the whole heating and forging operation. Scale and decarburization are about the same as encountered with similar oil-fired furnaces. Radiation from hot ash and coal particles in the flame speeds the heating of the stock on the hearth.

• **Ash Eliminated**—Outstanding advantage of radiant tubes, set in the walls and ceiling of a furnace, is that the fuel burns within them, does not come in contact with the work, hence does not contribute to the formation of scale. The maximum temperatures that the alloy tubes will withstand is about 2,000 F, but this is high enough for many metallurgical operations. The successful burning of pulverized coal within such tubes will remove the main disadvantages of coal—fly ash, cinder, and sulphur—for such purposes as heat treating, annealing, and enameling.

Both of the new furnace stokers are for residential use. One operates smoke-



Star performer at Battelle Institute's showing of what's new in coal appliances last week was the smokeless stove; 40% of U. S. houses are still heated by stoves.

lessly; the other requires further development to achieve that distinction completely. Both have rotating grates to break up clinker formation, and the smokeless one has a rotary head above the fuel bed to introduce air and achieve more complete combustion of volatile matter and gases. Negotiations for its manufacture are about to begin.

• **Outwitting Drought**—Most spectacular development of the research program is the pistonless, turbineless water pump now under consideration by the Tennessee Valley Authority as a standby source of water for power dams that might have to be closed down during drought. Plans call for a reservoir, 19 ft. in diameter, set in a sump below the level of the tail water below a dam. Capping the reservoir will be a combustion chamber for burning a mixture of pulverized coal and air. Valves will be opened automatically to admit water, then closed.

When the coal-air mixture is ignited, the gases formed will push the water in the reservoir through a pipe and up to the top of the dam, replenishing the water supply for the dam's turbo-generators. Any coal ash from the combustion will be suspended in the water and carried with it to the dam top where it will have time to drop out of suspension before the water flows through the turbines.

• **Precedent in England**—However visionary the plans sound, a pump very similar to it has been in operation for many years in England as a booster to London's water supply. Now proposed by TVA is a single pilot plant, but if it works (and Battelle's researchers are confident it will), there may be several of them below each drought-prone dam in TVA's vast empire.

It's not enough to hope your truck  
will last... It's your patriotic duty  
to make it last till Victory Day



**P.M. White P.C.**

Preventive Maintenance

Parts Conservation

*Wishful thinking won't keep America's vitally necessary  
5,000,000 motor trucks in service for the duration*

# A COOPERATIVE PLAN of Truck Conservation

To prolong the life of every existing truck  
... and to conserve on replacement parts  
because of the critical materials they con-  
tain... is the patriotic duty of American  
truck owners.

Ordinary maintenance methods are not  
enough to meet the situation. That's why  
White has devised the *Cooperative Plan of  
Truck Conservation*.

Two features make the Plan unique—  
Preventive Maintenance combined with

Parts Conservation. One without the other  
is a half-way measure. White offers the  
protection of both.

It's your patriotic duty to make your truck  
last longer and conserve critical materials,  
but it's *ours*, too, to provide the way to do it.

Whether you operate one truck or a fleet,  
you ought to get the facts today about  
the *White Cooperative Plan of Truck  
Conservation*. A booklet describing the  
Plan in detail is available upon request.

## Preventive Maintenance

**PREVENTIVE MAINTENANCE** prevents excessive wear on parts;  
postpones major repairs and avoids the premature need for  
new replacement parts. It insures against excessive time out of  
service and thus increases a truck's productive capacity. It con-  
serves gasoline by keeping the trucks operating at peak efficiency  
at all times. It prolongs tire life.

Preventive Maintenance is the "stitch in time" Service Plan  
which White originated 10 years ago and has constantly im-  
proved with the development of new shop equipment, special  
repair machines and time-saving methods. Our mechanics have  
had years of experience with Preventive Maintenance—it's not  
a wartime expedient with them.

**MANY WHITE TRUCKS**, with more than a million miles of service  
to their credit, have been protected by P. M. since its start. It  
stands to reason that when your truck receives proper lubrica-  
tion, regular inspections, adjustments, and prompt minor repairs  
—before big, expensive troubles can develop—truck life is greatly  
extended and the rate of wear on vital parts containing critical  
war materials is greatly reduced.

Preventive Maintenance is available to owners of all makes  
of trucks.

## Parts Conservation

**PARTS CONSERVATION** is a new, exclusive White Service  
development especially designed to meet the present situation.  
It is made possible by the fact that modern White Service Stations  
are "miniature White factories"—with special machines that  
enable skilled White craftsmen to repair worn or broken parts  
that, in ordinary times, would be replaced by new parts. In  
order to conserve critical war materials—and protect owners  
"for the duration"—all repairable parts will be repaired.

**When a new part is required, it may be obtained only in ex-  
change for the old one it replaces.**

This policy applies to virtually all replacement parts from spark  
plugs to rear axles. It has been adopted first-in-the-industry by  
White, voluntarily, to conserve war materials and to extend the  
length of time owners can be sure of getting needed truck parts.  
If the old part is repairable, it will be returned to the original  
owner at the cost of repair. If it is not repairable, a credit will be  
allowed, based on the scrap value of the old part, if it has value.  
All parts which are not repairable will be disposed of in accord-  
ance with the recom-  
mended plan of the  
Salvage Section of the  
War Production Board.



**THE WHITE MOTOR COMPANY • CLEVELAND**

Builders of U.S. Army Scout Cars, Half-Tracs and Prime Movers, the  
complete line of Super Power Trucks and Tractors, City and Inter-  
City Coaches, Safety School Busses and the Famous White Horse.

**FOR 40 YEARS THE GREATEST NAME IN TRUCKS**





## CAUGHT WITHOUT THE GOODS

● The time to stop sabotage, espionage and theft is not after it happens, but before. A.A.I. Automatic Alarms perform this duty with uncanny accuracy in a modern, efficient way. Tiny "robot sentries" or detectors, attached at intervals along fence lines enclosing important properties and plants, serve as supersensitive "ears" in detecting, amplifying and reporting sounds by both visible and audible signals... even directing guards to actual zone of disturbance. A.A.I. Automatic Alarms trap the intruder not after but BEFORE he has accomplished his nefarious errand. Here is modern protection at its best... an alarm system relatively low in cost that operates with unfailing accuracy, multiplying, many times, the efficiency of human guards in patrolling miles of high wire fence, even during the hazardous moments of blackout, storm and fog. Surround your industry with this security.

Licensed under DuPont  
and Asiatic Patents



**AUTOMATIC ALARMS Incorporated**  
835 Market St. YOUNGSTOWN, OHIO, U. S. A.



... and ***YOU*** get something  
money ***can't*** buy

When one of your key workers can have hospital and nursing expenses paid for by group hospitalization insurance, he computes the value in cash... that would otherwise have come from his savings

But **YOU** must compute the value in things that are beyond price... in morale that beats quotas... in man-days that hospital care saves for production... in better employee-relations that win and hold fine employees.

We can tell you many inspiring stories of how group hospitalization programs are helping to win this war. Write or wire us today.



**CONNECTICUT GENERAL**  
**LIFE INSURANCE Company**

HARTFORD, CONNECTICUT

## NEW PRODUCTS

### Forced-Induction Pump

Heavy, formerly unpumpable materials—such as lubricating greases, sealing compounds, sound deadening mastics, putty—can be pumped directly from the original drum or container with the new Lincoln "Pile Driver" Forced-Induction Pump, thus eliminating laborious hand methods. Caulking material can be applied through a hand hose directly to riveted structures while they are on the production line, heavy grease directly to bearings, putty to windows, sealer to airplanes.

As built by Lincoln Engineering Co., 5701 Natural Bridge Ave., St. Louis, the outfit is engineered in various sizes and capacities for direct attachment to 10-gal. steel containers and 55-gal. drums. It is installed by plugging in an electrical connection and hooking up an air line.

### Plastic Fog Jet

Designed to throw an artificial fog and thus to blanket, cool, and extinguish fires—particularly those involving flammable liquids, dangerous gases, or in-



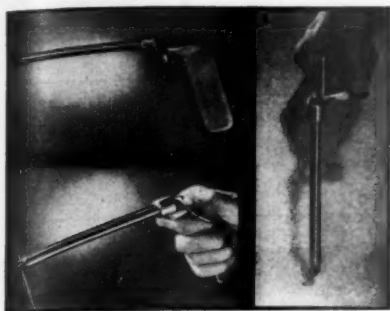
tense smoke, the Mul-T-Jet will screw on to standard pipe or shutoff nozzles used in most industrial and city fire departments. The device, which is molded out of Tennessee Eastman Tenite, hence uses no critical materials, is a recent product of Mul-T-Jet Nozzle Corp., 11 W. 42nd St., New York. There are no moving parts in its construction. As water squirts out of nine pairs of openings, streams impinge upon one another, breaking into a fine spray.

### Cutter-Retriever

If you have ever had to cut a wire in a spot inaccessible to a standard pair of cutting pliers, or have tried to pick up a

nut or cotter pin which has dropped accidentally into the innards of your car, you will get some idea of the time and trouble that the new Alpert Long-Nose Cutter-Retriever will save the mechanics in your shop or plant.

Its cutting edges are located at the end of a long slim barrel. To cut a wire, the operator engages it with the cutters



and pulls down the lever-like trigger with his thumb, attaining a leverage ratio of 15:1. To retrieve a dropped nut, pin, or whatever, the operator engages it with the cutters, but applies his thumb more lightly to avoid cutting. The tool will be distributed nationally by Pack-Rite Machine Corp., 828 Broadway, Milwaukee.

### Splashless Grinder Guards

Operator, onlooker, and floor are all kept dry during the wet grinding of carbide and other cutting tools, when a Hammond carbide tool grinder is equipped with the new No-Spray-No-Splash Wheel Guard and Coolant Flow Control just put into production by Hammond Machinery Builders, Inc., 1641 Douglas Ave., Kalamazoo, Mich.

Concealed under the hood, the guard hugs the grinding wheel in such a way that the operator is given a maximum amount of light on his work and full operating freedom. Connections to the



coolant jets are flexible hose, permitting the whole assembly of hood, guard, and coolant control to be turned back on top of the machine during wheel changes. Grinders themselves are available in sizes to swing 10- and 14-in. wheels.

## How to assure uniform processing of DEHYDRATED FOODS

*Taylor Automatic Control protects quality of refreshed products, guards against over-drying, under-drying and waste.*

**T**HE success of food dehydration will depend on product quality — the flavor, nutritive value, texture and appearance of the refreshed product.

But quality results only when you get the right process and stick to it. A minor error in time or temperature can result in a costly and wasteful operation.

*Over-drying even 1/2% can cost many dollars per day. Under-drying may necessitate re-drying, practically doubling costs. The answer is uniform processing. And the answer to uniform processing is Automatic Control!*

Whether your dryer is vacuum or atmospheric, batch or continuous, Taylor can supply this automatic control. Taylor temperature and humidity control systems are helping to speed output and guard quality of dehydrated foods in important plants right now.

For maximum production and uniform quality, requirements are as follows:

#### FOR VACUUM DRYERS

Taylor Fulscope Absolute Pressure Control for vapor space; Taylor pressure or temperature control for heating surfaces.

#### FOR ATMOSPHERIC COMPARTMENT DRYERS

Taylor Fulscope Wet-and-Dry Bulb Temperature Control. The dry bulb controls heat input by operating the steam valve on the air heater. The wet bulb controls humidity by operating the dampers which fix the ratio of fresh air to recirculated air. For complete automatic control of the drying cycle, the Taylor Time Schedule Controller provides auto-

matic change of both temperatures on a predetermined time basis. It avoids manual adjustment of the "set points" during the drying cycle. In addition, it will automatically terminate the process, if desired.

The Taylor Automatic Reset feature is necessary on the dry bulb control, and desirable on wet bulb control because of changes in load. Certain load changes are inherent in the drying process; others result from changes in weather.

#### FOR ATMOSPHERIC TUNNEL DRYERS

Taylor Fulscope Wet and Dry Bulb Temperature Control. Each zone of the tunnel requires the same instrumentation as a single compartment dryer—one wet and dry bulb temperature controller plus a Taylor valve for steam and a Taylor Lever Motor for damper operation.

The finest instruments obtainable cannot make up for lack of controllability in dryer design. So before you purchase a dryer, consider automatic controls as an integral part of the original equipment. When you specify Taylor Controls, you are assured of sound engineering advice and full collaboration with the equipment manufacturers.

For full information, write Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

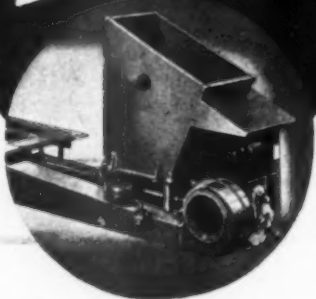
**Taylor**

Indicating Recording Controlling

TEMPERATURE, PRESSURE, FLOW and LEVEL INSTRUMENTS

KEEP ON BUYING U. S. WAR SAVINGS BONDS AND STAMPS

## Change Now to Iron Fireman Coal Firing



### Increase Fire Power for War Production

**T**ODAY, in tens of thousands of boiler rooms, Iron Fireman coal stokers are helping the war program. They are automatically firing coal—the *unrestricted fuel*—the fuel which you can buy and store now, for both current and future needs.

With Iron Fireman, steam output of existing boilers is stepped up 10% to 35%, to meet soaring demands on war industries and essential civilian services. Tonnage of coal burned is substantially cut by Iron Fireman's high-efficiency firing, thus relieving overworked transportation facilities. Automatic firing and coal handling gives boiler room employees more time for productive work. *Fuel bills are low.*

Iron Fireman stokers, to fire boilers developing up to 1,000 or more horse power, are delivered as complete units, with all control equipment, and are *quickly installed.*

Find out now what an Iron Fireman installation will accomplish in your business or building. See your local Iron Fireman dealer, or wire, telephone or write Iron Fireman Manufacturing Company, 3276 West 106th Street, Cleveland, Ohio. Plants at Cleveland, Portland, Ore.; Toronto, Canada.



**IRON FIREMAN**  
Automatic Coal Stokers

# LABOR & MANAGEMENT

## Telling the Boss

North American Aviation seeks employees' views, but a report by an NLRB examiner hits "individual bargaining."

A lot of water has gone over the labor relations dam since the sensational strike of C.I.O. aircraft workers at the Inglewood (Calif.) plant of North American Aviation Corp. almost exactly a year ago (BW—Jun. 14 '41, p14).

• **Echoes of a Famous Case**—A few days ago observers were reminded, by a National Labor Relations Board action, of that strike's explosive series of events—a movement which began with a mass meeting of C.I.O. adherents in a bean field next to the North American plant on a muggy Sunday afternoon last June and ended only when the Army moved in to take possession of the factory.

Last week's NLRB action comes as a kind of epilogue to those hectic days in the history of North American. It

was in the form of an "intermediate report" by a board trial examiner, C. W. Whittemore, recommending in effect that individual workers at the company's plant in Inglewood be forbidden to take up grievances directly with the management. As the official NLRB announcement puts it, the examiner found that North American "had established a system of individual bargaining in contravention of self-organizational rights of employees."

• **Company's Position**—Mr. Whittemore's contention, which still has to get NLRB's rejection or affirmation, is that on Aug. 18 last year (following NLRB certification of the U.A.W. as exclusive bargaining agent) the company distributed to its employees the contract it signed with the union a few weeks after the turbulent strike. With it, says the examiner, went a notice signed by J. H. Kindelberger, president of North American, outlining a grievance procedure "unilaterally prepared, promulgated, and coexistent with but in contradistinction" to the collective bargaining procedure established in the agreement.

The examiner rejected the company's



## UNION SERVICE—NEW STYLE

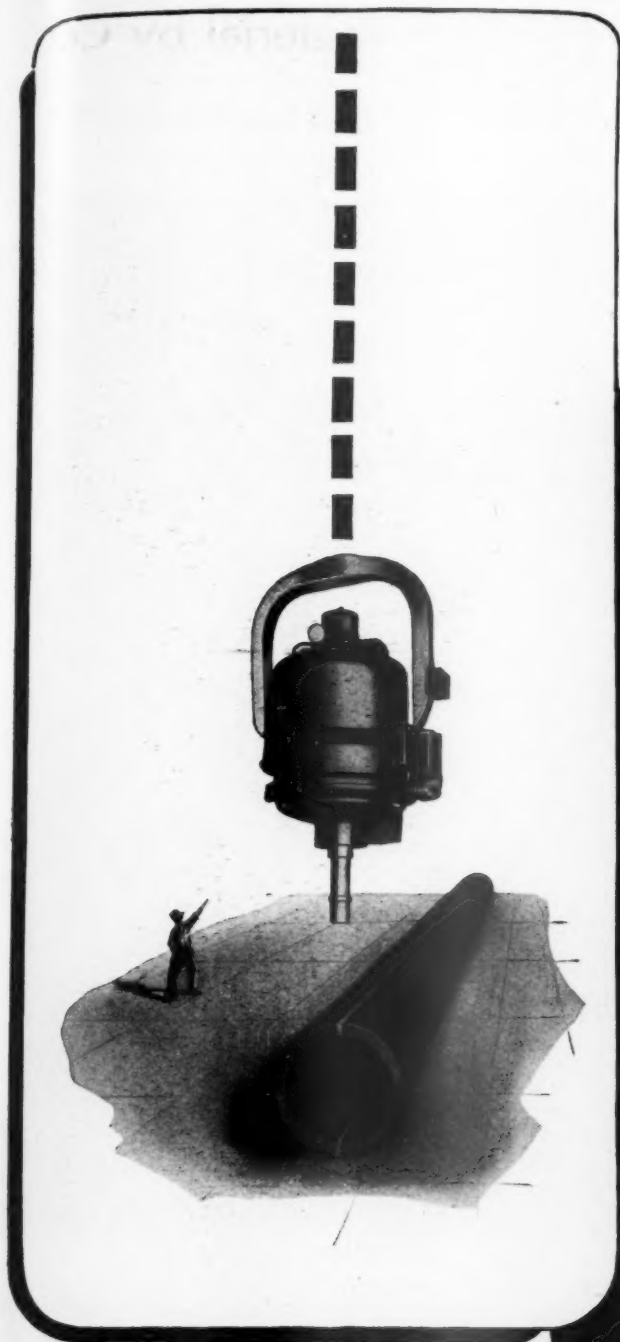
Elizabeth Giles of the engineering department of the International Ladies' Garment Workers' Union packs her trunk with the machinery which she used in making time-motion studies and prepares to leave Knoxville, Tenn., after demonstrating for the first time

in the South I.L.G.W.U.'s new theme in labor relations—helping management improve the efficiency of plant operations. The garment workers' union makes its analyses of waste motion only upon invitation, such as was extended by Appalachian Mills in Knoxville. Studies have been made in California and New York City.



mediate  
er. C.  
ing in  
t the  
e for-  
rectly  
official  
ne ex-  
erican  
vidual  
self-  
" hitte-  
to get  
s that  
LRB  
lusive  
trib-  
ect it  
after  
s the  
J. H.  
Amer-  
edure  
, and  
stine-  
pro-  
t.  
any's

me  
ge-  
ant  
ers'  
mo-  
was  
in  
in



# 8 minutes

## instead of 7½ hours

### TO X-RAY


### heavy welded boiler seams

The generation of steam at high pressures and temperatures for large power stations requires the use of heavy drums which are fabricated by welding. The safety of the welded seams is assured by X-ray examination which until recently was a time-consuming operation. Today it takes us only 8 minutes instead of 7½ hours for the X-ray exposure used in testing a welded boiler seam 5¼" thick. A concrete example is a recent heavy boiler drum that was completely X-rayed in 31½ hours whereas previously it would have required 1127 hours. Thus, because Combustion Engineering was forehanded in acquiring—before the war program began—one of the first 1,000,000-volt industrial X-ray units, we are today speeding up the building of boilers for use on land and sea, wherever steam is needed to prosecute the war.

## COMBUSTION ENGINEERING

200 MADISON AVENUE • NEW YORK, N. Y.

In every industry there is room for the courageous manufacturer to improve existing standards. This company has contributed the "custom-built" idea to the manufacture of relays. Relays built in close conformity with customer needs are better relays for a given purpose. C. P. Clare & Co., 4719 W. Sunnyside Ave., Chicago, Ill. Cable Address: CLARELAY



**CLARE RELAYS**  
"CUSTOM-BUILT" Multiple Contact Relays  
for Electrical, Electronic and Industrial Use

Turning the "Searchlight" on Opportunities



#### position wanted

• **PRIORITY EXECUTIVE**—Full responsibility, all procedures including appeals. Complete Government Contacts. Highest references. Box 298.

#### employment service

• **SALARIED POSITIONS** — \$2,500 to \$25,000. This advertising service of 32 years' recognized standing negotiates for positions of calibre indicated. Procedure individualized to your personal requirements. Retaining fee protected by refund provision. Identity covered. If salary has been \$2,500 or more send for details. R. W. Bixby, Inc., 282 Delward Bldg., Buffalo, N. Y.

#### wanted — pattern work

• **OLDEST ESTABLISHED** pattern and machine works on Long Island can take on additional wood and metal pattern work. Eppenbach, Inc., 4510 Vernon Blvd., Long Island City, N. Y.

#### "clues" information

"clues" appears weekly. Copy required Monday for Saturday's issue. Rate: 50 cents per word or \$2.50 per line (or fraction) per insertion, payable in advance. Minimum charge \$5.00. Discounts 10% on orders for insertion in 4 consecutive issues. Publication box number address counts as 2 words; replies forwarded without charge. Address: *clues*, c/o Business Week, 330 W. 42nd St., New York, N. Y.

"As a result of a single ad in Business Week 'clues' we received two excellent responses. One, which resulted in a contract."

claim that section 9 (a) of the Wagner Act, permitting individuals to present grievances, allowed employers to define "grievances" as all individual disputes including the application of contract terms.

• **Official Point of View**—Attitude of the North American management was pretty well summarized last week by the open-shop Los Angeles Times which said editorially: "The Wagner Act provides for collective bargaining but it has never been supposed that it prohibited any man who had a kick coming from telling the boss about it."

The action started last April when the C.I.O. union filed charges with the board. If the examiner's interpretation stands, it's going to be a blow to "Dutch" Kindelberger because he has always encouraged employees to bring their beefs to him personally. Now that the company has grown so big, he has had to substitute questionnaires for personal contacts to discover how the men and women like their work, what they think about N. A. planes, their house organ, the cafeteria lunch service, etc.

• **Request for Opinions**—For instance, employees at the main (Inglewood) plant got copies of a questionnaire recently along with their weekly newspaper. With each questionnaire was a letter signed by Kindelberger saying old-timers at Inglewood would verify the fact that they never hesitated to hand him a hot complaint when they thought he had it coming, that he still wants to know what they think, "the bad things as well as the good."

The questionnaires had a "gripe corner" in which Kindelberger invited employees to call him a few names if they wished. "Just let down your hair and tell me the first thing you would do if you were in my shoes," he urged.

• **Glad to Sound Off**—About one-third of the workers responded. While replies showed there's a certain amount of dissatisfaction among the employees, on one point everyone was unanimous—all the employees welcomed the chance to have their say. Nearly everyone who returned the questionnaire answered all the questions and most of them penciled little remarks like, "Dear Dutch: Thanks for the opportunity to gripe. Give us some more."

The first question was, "Do you think that North American is the best aircraft plant in the country?" About 60% said "yes," 24% had "no opinion," and 16% said "no."

Question 2: "Are you proud of North American planes as compared with planes built by other manufacturers?" Some 87% thought they were the "best there are," 13% thought they were "no better than others." Only one person out of the 3,200 who answered this question thought they were "not so good."

• **Why They Work There**—One query was: "What is your number one inter-

est at North American?" The following answers were received.

(1) 16%—training for an aviation job in the future.

(2) Less than 1%—I might not get drafted here.

(3) 44%—opportunity for advancement with N. A.

(4) 5%—I want to make what money I can now.

(5) 35%—I feel I'm helping win the war here.

Asked whether they thought they were better off working at North American now than they were in (a) 1941—79% did, 21% didn't, (b) 1940—81% did, 19% didn't.

• **Evaluating Training**—Question 6 asked, "What is your estimate of the value of the training you have received from North American?", about 9% thought it was worthless; 13% estimated its value at \$100; 16% said \$200; 24%, \$500; 19%, \$1,000; 19%, \$2,000.

The employees resoundingly endorsed the aircraft company's newspaper (weekly) and magazine (semimonthly), with less than 1% disliking them. They turned thumbs down on the "Travelunch" system—a mobile cafeteria that brings a commissary around to the office and factory doors (BW—Dec. 27 '41, p22). About 33% don't like the lunch carts, 26% liked them, and the remaining 41% voted that they were "better than nothing."

One significant question was: "Do you think the North American grievance procedure operates fairly and satisfactorily?" It brought an indecisive answer, with 64% professing that they don't know, 23% voting "yes," and 13% voting "no."

## Prisons Enlist

California shows the way for penal institutions anxious to turn out war goods. Unions help launch training courses.

Ever since the U. S. Attorney-General ruled last month that war goods made by prison labor could be shipped in interstate commerce, prisons throughout the country have been eager to gear themselves to the war effort, but they have been confronted with many of the same problems that have faced private industry—the conversion of plant equipment and the training of labor. For the prisons there is no such thing as trying to find the labor they need. It's a problem of training the labor that's on hand.

Of all the prisons in the country, those of California have made probably the most rapid progress toward effective war production.

• **Training Courses Scheduled**—About June 15 the California state prisons at

## SALVAGING VITAL PRODUCTION TOOLS



Worn metal teeth no longer shelve the Tool — nor do they mean costly, hard-to-get replacements. Utilizing the intense heat of the oxyacetylene flame, the Airco Hard-Facing Process quickly "builds-up" the worn metal. Parts thus rebuilt can be expected to out-live and out-produce new parts.

Airco Hard-Facing is doing an unprecedented job today in conserving time and material. Parts of practically any shape and size, which are subject to abrasion, can be rebuilt economically, speedily. Standard oxyacetylene welding apparatus is employed.

Many other applications of the oxyacetylene flame are finding ever widening use in speeding and improving production of ships, tanks, guns, rolling stock and planes. This versatile tool slices through steel with remarkable speed — welds metal into strong, light units — sweeps surface rust from metal structures to extend the life of paint jobs — gouges steel and iron quickly and accurately.

To help you apply these processes with the greatest effectiveness, Airco offers the services of its research and engineering consultants.



*General Offices.*

60 EAST 42nd STREET, NEW YORK, N. Y.

*In Texas:*

Magnolia-Airco Gas Products Co.  
General Offices: HOUSTON, TEXAS  
OFFICES IN ALL PRINCIPAL CITIES

**IDLE CYLINDERS ARE PRODUCTION SLACKERS: KEEP 'EM ROLLING FOR VICTORY!**



## CHECK LIST No. 21

### ... of recent discoveries for solving war-time problems

- **Wood, Fibreboard** can now be flameproofed effectively. (176)
- **Hard Rubber and Plastic** articles can be polished by means of new low cost synthetic wax. (168)
- **Cork Preservative** prevents mould formation. (132)
- **Leather and Furs** can be treated with a new synthetic oil to eliminate rancidity and stickiness, replacing sulphated oils. (158)
- **Paper** coated with paraffin wax becomes more translucent when pretreated with an aqueous solution of a new synthetic chemical. (145)
- **Paints and Varnishes**, semi-gloss water emulsion, are water resistant on drying when made with a protein base. (127)
- **Ferrous and Non-Ferrous** surfaces now protected from tarnish and corrosion. (159)
- **Substitute Gum Tragacanth Ribbon** with a new edible gum of domestic origin. (183)
- **Lacquered Metals** can be stamped without a coating fracture by use of special lubricating compound. (140)
- **Sintered Bearings** made with metallic powders have a tendency to stick in the molds, but a new lubricant readily solves the problem. (179)
- **Add to Raw Rubber Mix** a new chemical material and increase the adhesion of rubber to cloth on vulcanization. (151)
- **Stop Wood Warpage** by using special wax which increases acid and alkali resistance and decreases time of impregnation. (146)
- **Wax** which will not melt in boiling water. (110)

#### JUST DO THIS:

See number in parenthesis after each subject. Jot down and mail to us any number that interests you. We will send you data sheets about the chemicals and their uses. Answers to many other problems in your industry are given in our 112-page manual "Chemicals by Glyco"—which is yours for the asking.

**GLYCO PRODUCTS COMPANY, INC.**  
230 King St., Dept. B.W. 2, Brooklyn, N.Y.

San Quentin, Folsom, and Chino will install industrial training courses to fit inmates for war production work (1) in the prisons themselves; (2) in war plants on the outside when the men are released on parole. Courses will be under supervision of vocational training departments of the State Department of Education and the U. S. Employment Service and will be given by specialists from those two groups.

During the next seven months more than 1,500 parolees, fully trained for war work, will filter into industries in California and elsewhere from the three institutions, according to Allen Moore, State Parole Officer.

The California effort springs largely from the "rehabilitation" policies of Clinton Duffy, warden of San Quentin prison. A certain amount of vocational training has been going on quietly in San Quentin for several months, a fact which probably explains why the California institutions are further along on the war program than many other states.

• **Unions Take a Hand**—Interestingly enough, in view of the traditional attitude of unions toward prison labor, the San Quentin courses in such crafts as metal-working, shipfitting, welding, machine-tool operation, electrical repair, and draughting have been given by volunteer members of San Francisco and Oakland unions. Officially, the labor organizations haven't sanctioned the in-

novation, but off the record they are ready to admit their cooperation with Warden Duffy.

Under the enlarged program, however, which gets under way about June 15, the training will consist of the regular, approved courses which the state and federal vocational groups conduct on the outside for war production workers. Union cooperation then will consist merely in allowing parolees to carry union cards. Incidentally, some 2,500 California parolees are now working in war industries. About 250 are merchant seamen on convoy duty in the Pacific, and 110 have gone as trained craftsmen to Alaska, the Panama Canal, and Hawaii.

• **Picking the Products**—Toward the end of June, the new industrial building at San Quentin will be ready for three-shift operation and prison authorities are waiting for a WPB decision on what it's to produce. The prison's jute mill is turning out bags much needed by western farmers (BW-Apr. 18'42, p80). As an indication of the prisoners' desire to help in the war effort, Warden Duffy explains that on Dec. 8, when he asked for 50 volunteers from among the men who had "graduated" from that dreaded mill to go back to it to increase output of jute bags, more than 300 responded. Among the war products made at San Quentin are sirens (from scrap metal), stretchers, model airplanes, and splints.



#### MISS CHESTER'S BID

Whether the three help-wanted billboards which irritated Pittsburgh housewives recently were actually rented by "Miss Chester" or, as some believe, by a high-powered employment agency, they show how tight

labor is in the Steel City. The advertiser got her maids even with the competition of nearby war plants, but she also got pieces of minds over the telephone from innumerable housewives who condemned the stunt as labor piracy since the average pay for maids in Pittsburgh is \$8 a week.

# L'Affaire Bridges

Biddle's reversal of earlier reversal in celebrated case of Coast labor leader is surprising largely because of its timing.

The ruling last week by Attorney General Francis J. Biddle on the Harry Bridges deportation case, reversing the decision of the Immigration Department's Board of Review, didn't particularly surprise West Coast labor relations men. They've become accustomed to the "on-again, off-again" characteristics of the government's attempt to prove that the beak-nosed Australian labor leader is deportable as an "undesirable alien."

• **Disturbing to Unity**—Whatever surprise the ruling created was over its timing rather than its nature. There was considerable speculation over why the decision was released at a time when labor-management unity to speed war production is being ballyhooed so strongly. On the Coast, a large portion of workers regard Bridges as their leader. Many of them have dug down into their pockets to finance his defense.

There was pretty general agreement that Bridges' first public statement following Biddle's decision was smart. In it, the Australian, while calling the ruling "outrageous," emphasized that the case must not be allowed to slow down war production. "I will do all possible to offset any effect it might have on the production program and labor-management unit," he promised.

• **Point of Strategy?**—One widely circulated explanation of the timing of the decision was to the effect that, as president of C.I.O.'s International Longshoremen's and Warehousemen's Union, Bridges was about to move to the East Coast to launch his long-threatened campaign to raid Joe Ryan's A.F.L. International Longshoremen's Association in Eastern and Gulf ports. Moreover, it might be that top A.F.L. leaders, with the tacit approval of Philip Murray, president of C.I.O. (who never has been any too enthusiastic about the "Red"-tagged Bridges) convinced the Administration that Harry should be kept busy on the West Coast by his inevitable appeal to the Federal Circuit Court of Appeals in San Francisco.

Other observers didn't see any strategy at all in the timing of Biddle's decision. They assumed the Attorney General, having got around to studying the Review Board's ruling reversing the dictum of Judge Charles B. Sears (who presided at Bridges' deportation trial in San Francisco last year), had announced his opinion.

• **Reversers Reversed**—Briefly, Judge Sears held (BW—Jun. 21 '41, p. 52) that



## Out to Win

Continental men are  
doing a job for  
America by produc-  
ing War-Winning  
Engines and buying  
War-Winning Bonds.



**Continental**  
**Motors Corporation**

MUSKEGON

MICHIGAN

\*\*\*\*\*

## Let The Washington Post carry the message of what your company can do to help win the war

It used to be a helpless, "What can we do?"

Now, frequently, it's an exasperated, "Here's what we could do—if we could only sell the government the idea!"

Has it ever occurred to you that there is no such thing as an impersonal "the government?" There is merely a group of people—human beings—men like yourself, doing everything in their power to work swiftly, efficiently, thoroughly, but handicapped by the human weakness of not being infallible—and not knowing everything there is to know.

Suppose you had one of these jobs. Would you know every factory, every man, every facility in the entire United States—and exactly how to put each one to use? Of course not! Neither is it possible for the right man now in Washington to know about your factory and what it can do to aid the war effort—unless you tell him.

That's where The Washington Post comes in! Recognized as the outstanding newspaper of the Nation's Capital, quoted most often in the Congressional Record and throughout America, The Washington Post is the break-fast companion of practically every important government official in Washington today. From the White House down, they read, respect, and discuss The Washington Post. And that includes the ads in The Washington Post, too, as concrete evidence proves.

Jno. H. Swisher & Son, of Jacksonville, Fla., for example, advertised in The Washington Post for subcontracts. The morning the ad appeared, a War Production Board official dictated a letter starting "With reference to your advertisement in this morning's Washington Post," and offered to put the Swisher people in touch with two prime contractors!

At the low rate of 27c an agate line—\$658.80 for a full page—you can tell the story of your plant, your personnel, your brains and abilities and willingness to pitch in and help, to the most important men in America—official Washington, readers of The Washington Post.

### The Washington Post

Washington's Home Morning Newspaper  
Osborn, Sculare, Mosher & Co. George D. Closs, Inc.

Write to Room 330, The Washington Post, Washington, D. C., for the forty page book (17"x12 1/4") reprinting some of the institutional advertising appearing in The Post from December, 1941, through April, 1942. (Free to National Advertisers and Agency Executives. All others \$1.)

\*\*\*\*\*

the government had proved (1) that Bridges was a member of, or a sympathizer with, the Communist Party, (2) that the Communist Party stood for the violent overthrow of the United States government, and (3) that Bridges therefore is deportable. The Immigration Department's Board of Review reversed Judge Sears (BW—Jan.10'42, p66). And now Biddle has reversed the Board of Review.

Here are the Australian's alternatives: to file with Biddle a plea for a complete rehearing of the case, or to ask a writ of habeas corpus to prevent the Immigration Department from deporting him. The second would actually be the beginning of a long series of appeals, starting in federal district court, San Francisco and probably winding up in the U. S. Supreme Court.

## 3 for Wage-Hour

Division wins decision of Supreme Court in two cases and lower court in another giving it broader jurisdiction.

A U. S. Supreme Court decision this week, and a ruling by a federal judge in San Francisco, gave new scope to the Wage-Hour Division in its extension of Fair Labor Standard Act coverage.

• **Question of Jurisdiction**—The high court ruled in the division's favor in a case where its jurisdiction over building service employees was challenged. Two building owners, one in New York and one in Philadelphia, asserted that elevator operators, firemen, engineers, watchmen, porters, and carpenters in their employ were not engaged in interstate commerce and were, therefore, not subject to federal minimum wage and maximum hours orders.

The court, noting that tenants in the two buildings were engaged in businesses crossing state lines, held that the building service workers were "necessary to the production" of goods for interstate commerce and were, accordingly, covered by federal legislation. The New York case previously had been similarly decided in the circuit court (BW—Jan.10'42,p69).

• **Covers Many Workers**—The decision, with only Justice Roberts dissenting, is considered an historic broadening of the Constitution's commerce clause. It will bring literally thousands of new workers under New Deal labor legislation.

The San Francisco case involved the American Trust Co., the Wells Fargo Bank and Union Trust Co., and the American Building Maintenance Co. which provides janitorial service for the banks. There, as well, the court held that bank janitors are in interstate commerce and subject to wage-hour orders.

## AGRICULTURE

### Rice Price Is Cut

Sharp jump in quotations brings OPA ceiling, designed as much to look out for our export markets as U.S. consumers.

The problem of wartime guest behavior at weddings is getting to be serious. Tin cans and old shoes have naturally been going out of favor as nuptial trailers, and now the Office of Price Administration has unearthed the tight situation in rice (BW—Mar.7'42,p81) by slapping price ceilings on milled rice at peak levels of end-December, 1941, or the first fortnight of March, 1942; in either case half again higher than the price marks of a year ago.

• **Supply Vanishes**—Not so long ago price control of rice prices would have been an outstanding oddity, since in the last few years we have been producing about twice as much rice as continental United States can use annually (although it is still less than 1% of world production). Today, however, months before September-October rice harvests are due, the rice bag is relatively empty.

Ceiling prices are imposed on a basing point system, with one basing point each in Louisiana, Texas, Arkansas, and California, principal rice producing states. For years rice prices have kicked along between 2¢ and 4¢ a lb. Illustrative of the much higher range now, Blue Rose, a standard popular variety, is set at a ceiling of 7¢ a lb. at any basing point, plus freight from mill. Varieties with higher yield of milled rice from rough rice, Rexoro and Nira, are fixed at 9 1/4¢ a lb.

• **Preceiling Prices**—Even at these fancy quotations, ceiling prices, when ordered on May 22 to take effect June 1, were below the going market. For example, Rexoro had been moving at 11¢ and 12¢ and Blue Rose at 8¢ or more.

Domestically, rice prices are of most consequence in the southern states, where consumption of this \$64,000,000 crop is heaviest. National average plugs along, good times and bad, at 6 lb. per capita, which includes a very low use in north central states.

• **Problem for Exporters**—Nationally, we are fairly indifferent to fluctuating rice prices, but OPA was concerned with checking the tight market for reasons outside of continental United States. For one thing, the Agricultural Marketing Administration was building a large stockpile in Hawaii, and rice is extremely important there, consumption running 30 times as high as here. Most



of the Hawaiian supply is California rice.

Puerto Rico, Cuba (our best rice customer), the Virgin Islands have also drawn heavily on us, and British West Indies possessions, shut off from normal Oriental sources, are looking to the Gulf Coast for supplies. Lend-lease rice in fair quantities is also a prospect, and the OPA hints that consumption for military use will average much higher than for civilian, since rice is an easily packed, stored, and transported food.

• **Planting Areas Limited**—We might worry along with less rice domestically, but to keep insular possessions and Caribbean good neighbors in rice at reasonable cost, the Department of Agriculture would gladly have raised 1942 rice goals as high as needed, except that good rice lands are scarce. Louisiana is the top rice state because it has flat, low areas of gumbo that can be flooded.

Planting (now about finished in Louisiana) is done on dry soil, but as soon as green tips appear rice fields are flooded and kept under four to six inches of water until just before harvest. Gumbo bakes hard when irrigation waters are drained off, permitting harvesting by almost any kind of binder and thresher or combine.

• **Favored Locations**—Texas fields are on the flat coastal plain far enough back to be safe from salt water; Arkansas fields are on the marshy side of the Delta. California fields are centered on the flats of the lower Sacramento River Valley with some new land in Imperial Valley.

Best guess is that there are not more than 1,500,000 acres ideally suited to rice in this country, hence USDA acreage goal for 1942 is 1,320,000 acres, somewhat above the record 1,257,000 acres planted last year. But hurricanes swept across lower Texas and Louisiana last year, and the harvest was rainy, holding the crop to small yields and a total of 54,025,000 bu., just short of a new high. Granted a 50-lb. yield per acre average this year, a crop of 65,000,000 bushels is indicated, 10,000,000 above the previous top.

The small increase in rice acreage for this year will have even smaller effect on farm labor than a similar jump in most crops. Once rice is planted, the water blanket acts as an automatic cultivator, keeping fields completely weed-free. Labor requirements hence are almost nonexistent through the season, and at harvest time the crop requires no more labor than an average Middle Western cereal grain. Fields must be rested every few years, which means the full 1,500,000-acre potential will never be used in any one year. We are at about the peak now.

• **No Ceiling on the Farm**—The 1941 crop has largely moved out of farmers' hands and rough rice is not ceilinged on the farm. Rice millers thus have until

# RIGHT NOW *these Low-Cost* Metal-Cutting Band Saws CAN HELP YOU!



When you are confronted with an urgent need for immediate increased production in connection with the U. S. armament program—check into the possibilities of using this 14-inch Delta metal-cutting band saw. It is ideal for cutting

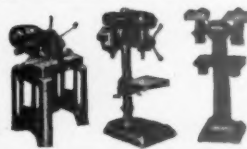
- |                      |                      |
|----------------------|----------------------|
| • Aluminum Castings  | • Monel Metal        |
| • Aluminum Sheets    | • Nickel Steel       |
| • Hard Cast Brass    | • Iron Sheets & Bars |
| • Soft Cast Brass    | • Pipe               |
| • Brass Sheets       | • Malleable Iron     |
| • Brass Tubing       | • Babbitt            |
| • Cast Iron          | • Bakelite & Mailed  |
| • Copper             | Plastics             |
| • Metallic Hose      | • Asbestos & Felt    |
| • Cold Rolled Steel  | • Brake Linings      |
| • Carbon Tool Steel  | • Fibre & Mica       |
| • Bronze & Manganese | • Slate & Transite   |
| • Drill Rods         | • Hard Rubber        |
| • High Speed Steel   |                      |

## Will help Speed up Production

There is no limit to the number of jobs you can find for this economical low-cost tool around the general tool and machine shop. And the few uses mentioned above scratch only the surface of the machine's adaptability. Once the machine is installed, there is no end to the number of jobs that are found for it!

## Other Delta Low-Cost Machines

1. **Cut-Off Machines**—cuts speedily and to exact lengths a wide variety of materials.
2. A complete line of single and multiple spindle 14" and 17" drill presses.
3. **Bench and Pedestal Grinders**—the safest, most accurate and efficient grinders made.



## Send for CATALOG

Send for latest Delta catalog giving full specifications and prices of Delta 14-inch Metal-Cutting Band Saw. Also prices and details on the complete line of Delta low-cost machines.

THE DELTA MANUFACTURING COMPANY  
953 E. Vienna Avenue, Milwaukee, Wis.



# DELTA MILWAUKEE

World's largest manufacturers of low-cost, high quality drill presses  
• grinders • abrasive finishing machines • cut-off machines • circular  
saws • band saws • scroll saws • lathes • jointers • shapers

harvest in September to worry about possible squeezes between free rough rice prices and fixed milled prices.

Nearly all American rice is milled (de-hulled and de-coated), polished, and covered with glucose and talc for sales appearance. With our varied diet we don't need the brown outer coat with the B<sub>1</sub> vitamin that protects Oriental rice eaters from beri beri.

• **Most Sales in Bulk**—Food value of all varieties is the same (not including wild rice, which is not rice at all), and merchandising of the crop doesn't change much. Louisiana growers are small Cajon farmers, most others are big; package rice is a small part of the trade, most of it still going into the southeast in 100-lb. bags.

## Wheat Bonanza

**Kansas, in a fair way to harvest second bumper crop in a row, gets a windfall from grain that seeded itself.**

Last year Kansas produced a quarter of all this country's winter wheat, and it looks as though the state is in a fair way to repeat in 1942. Right now the Jayhawkers' prairies look like front yards in an exclusive neighborhood; the state is at its tailored best.

• **And Now a Windfall**—On top of that, there's a gift crop to sweeten the Kansas farmer's kitty to the tune of several million dollars. This comes from the lifting of federal restrictions so that it is possible to move the combines onto the approximately 2,000,000 acres of volunteer wheat.

Topsy-like, the wheat just grew. The seed fell to the ground during harvest last year. The rain came. By Sept. 1, 15 to 25 days before the regular planting date, the Topsy-crop was standing high enough so that many farmers moved hungry cattle and sheep into the fields, and collected the first instalment on this money harvest.

• **Feed It and Have It Too**—Pasturing of this volunteer crop continued throughout the winter, and if not a grain of it were ever threshed, farmers would have a fancy profit from the volunteer crop. But, early this year, the government, taking cognizance of the "Food-for-Freedom" program, announced that if the farmers would follow certain restrictions, the crop might be harvested, and the farmers would not be penalized under the Agricultural Adjustment Administration program.

Most Kansas farmers are cooperators with the AAA, and under ordinary circumstances the crop would have been plowed under as excess production. (Kansas farmers have again approved the federal marketing control program in a

referendum held May 2; the vote was 51,101 to 15,983.)

• **Some Strings Attached**—Farmers co-operating with the Triple-A program who choose to harvest their volunteer wheat will be able to earn both agricultural conservation payments and parity payments, provided:

(1) Their acreage of seeded wheat is within their 1942 allotments, and they comply with other provisions of the AAA program.

(2) They store their volunteer wheat on the farm as long as it is subject to a marketing quota penalty.

(3) They seed within their 1943 wheat acreage allotments.

That the Kansas farmer is unusually prosperous is shown in the fact that the 1941 cash farm income for the state was \$427,714,000, the highest since 1928, according to a report by the U. S. Bureau of Agricultural Economics and the Kansas Board of Agriculture.

• **Two Bumper Crops**—The government now tentatively estimates the Kansas 1942 wheat harvest at 172,700,000 bu., fifth largest in the state's history (last year's bumper crop topped that figure by barely 300,000 bu.). Making the outlook all the brighter, the number of cattle in Kansas also is up by 12% in comparison with a year ago, and prices are good. Only difficulty is shortage of labor, and every effort is being made to (1) enlist high school boys, (2) get farmers to swap work with their neighbors, and (3) talk local business men into helping on the farms.

## Growing Problem

**Winter wheat is ripening, it's a bumper crop, prices are good, but old grain still clogs terminal and rural bins.**

As the wheat harvest of the Southwest draws closer, there is no discernible break in the prospect of inadequate storage facilities (BW—Apr.25'42,p81). On May 16 the Kansas Grain, Feed and Seed Dealers Assn. totted up country elevator space throughout the state and found only 13,000,000 bu. of empty space out of 42,000,000 bu. of capacity in licensed houses.

• **Terminal Space Short**—Terminal and subterminal space available in Kansas and southern Missouri River points added only 25,000,000 bu. of empty space. Deducting turning space from the total of empty bins leaves about 35,000,000 bu. Considering that movement through elevators will be much slower than normal under the existing permit system, Kansas, core of the Southwest problem, will be completely unable to fit a crop of 173,000,000 bu. into existing bins.

Meanwhile, the War Production Board has taken pains to point out that grain bins made of wood and containing no metal except nails, strapping and small hardware, are specifically exempted from General Limitation Order L-26

## Victory Gardens—by the Right Gardeners

Main problem of the Department of Agriculture in getting earth turned for Victory Gardens is to steer enthusiasm into the right channel. The goal is 5,760,000 gardens compared with 4,431,000 last year. But don't spade up the rose garden, the backyard, or the empty lot across the street, if you haven't already. The garden goal is strictly for farm gardens, perhaps also a few community or school gardens where produce can be consumed within hailing distance, requiring no processing or transportation.

That's not the only reason why the Department of Agriculture worries about the thumbnail tilling of suburbanites and city dwellers. Such well-intentioned but misdirected backyard experiments, conducted by amateurs who have equipped themselves with shiny new trowels, spades, and hoes, mean a waste of steel and a waste of vegetable seed.

More food is certainly an aim, but commercial gardens will provide plenty of fresh vegetables, in some



cases too many (BW—May23'42, p77). Home gardens are merely to furnish more vitamins for the American diet, save some transportation, replace a fraction of curtailed vegetable canning packs by home preserving (with a minimum of sugar).

clamping down on manufacture of metal bins. No preference orders, however, will be obtainable for metals. Otherwise construction of wooden bins can be unlimited.

• **Emergency Space**—The Commodity Credit Corp. has already spread its wings to include garages and other buildings as suitable emergency storage structures for loan wheat when operated by warehousemen who meet financial requirements. It still adds up to the same thing, though—most of the wheat will have to stay on the farm for a while.

## Prune Pickup

California growers look for record year, thanks to government orders and price guarantee; fight over repeal of prorate plan.

Even the West Coast prune growers—85% of them in California—may make some money this year, a possibility that shows how rosy the over-all farm income picture is.

Cursed with the "boarding house" label which national advertising campaigns have removed to some degree, the lowly prune has in recent years ranked as the smallest money-maker among West Coast fruits. In fact, many growers would argue the use of the term "money maker" in connection with prunes.

• **Price Guarantee**—The government's indication last week that it would "support at all times the field price to prune producers at not less than a minimum price of parity" may mean much or little to the growers, depending on the interpretation of parity. Difficulty of establishing a parity with any meaning lies in the grades and sizes of prunes. Average size of California prunes over a period of years is 60 to the pound. Last year, the average size was 70 to the pound, while two years ago it was 55. Each variation in size brings a corresponding price change of about \$1 a ton. Also there are price differentials for prunes produced in various districts of the West Coast.

With a fair-sized government order at good prices to make up for loss of normal exports, most prune growers regard 1942 as the now-or-never year. For more than a decade California growers have faced almost continuous "economic distress" and during this time some 30,000 acres or 20% of the prune-bearing acreage in California has been abandoned. Now, there is the cheering expectation that before the new crop arrives by mid-September, last year's 160,000 tons of standard grade prunes will be consumed. This will mark the first time since 1937 that the industry has been able to start the season with a clean slate.

• **Pro and Con on Prorate**—But the prune industry isn't quite out of the

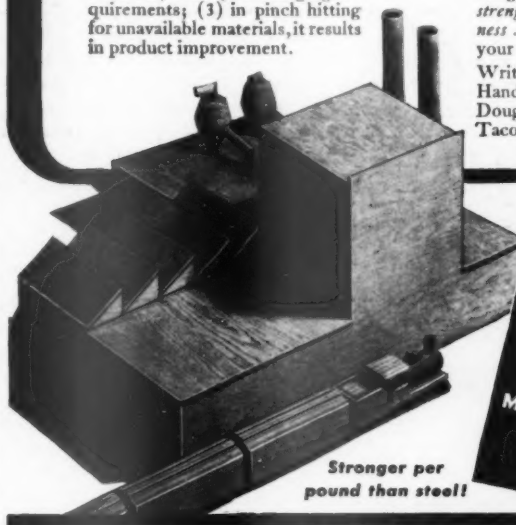
## Looking for ways to speed war production?

Perhaps Douglas Fir Plywood can be of service to you!

Versatile Douglas Fir Plywood is helping scores of industries *meet or beat* war production schedules. It is being used extensively because: (1) it can be fabricated easier and faster; (2) it adapts itself very readily to changing requirements; (3) in pinch hitting for unavailable materials, it results in product improvement.

Many plants are finding Douglas Fir Plywood a superior structural material . . . a dependable crating material . . . a time-saving material for housing workers. Consider its advantages . . . *light weight, proven durability, great strength, large sizes, split-proofness* . . . and let it help you speed your war production, too.

Write now for our free Industrial Handbook or technical assistance. Douglas Fir Plywood Assn., 1624 Tacoma Bldg., Tacoma, Wash.

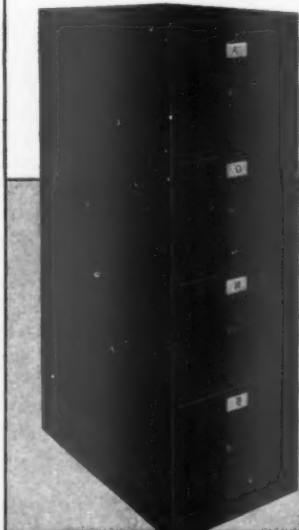


Stronger per pound than steel!



## THIS NEW WOOD FILE IS A DEPENDABLE WAR-TIME PRODUCT THAT SAVES STEEL

★ The "Recruit" wood file solves today's war-time filing problems and will last a business lifetime. The wood is air-seasoned . . . properly kiln-dried hardwood . . . carefully selected to insure freedom from defects and provide uniform good quality.



The drawer mechanism is the most important part of the file and is exactly the same as that used in many of the best files made by Globe-Wernicke. Drawers glide easily and quietly on ball-bearings. Available in four drawer letter and legal sizes . . . finished in green only.

Consult the local G/W dealer . . . or write direct to us.

★ BUY WAR BONDS ★

The Globe-Wernicke Co. . . CINCINNATI, O.





**AMPLICALL**  
Gives You Finger-tip  
Control of YOUR Business!

**NO WALK!**

At the merest touch of your finger, AMPLICALL puts you in instant talking contact with every individual, every department of your business! No more wasteful walking—you can hold 2-man conversations or group conferences right at your desk, without taking a single man away from his own work! Don't walk—use AMPLICALL—and talk!

**NO WAIT!**

AMPLICALL gets action, saves precious time now when it counts most. Cuts right through delays; co-ordinates operations; puts ideas and orders into action in seconds; relieves busy switchboards—gets things done fast! Don't wait—use AMPLICALL—and get action!

**NO WASTE!**

AMPLICALL conserves energy, reduces errors, puts manpower to more productive use. AMPLICALL saves money and pays its own way every day because it saves priceless man-hours. AMPLICALL is easy to install, easy to use, and inexpensive. So why walk, wait, or waste? Let AMPLICALL work for your business!

There is an AMPLICALL System to fit your business. Write for full details.

**Rauland**

RADIO—SOUND—COMMUNICATIONS

(RAULAND-Webster Sound Division)  
4245 North Knox Ave.  
Chicago, Illinois. Dept. 1-J

Send us full information covering Amplicall Intercommunications Systems.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

woods yet. There still remains the question of whether or not the prorate plan, operated by the State Department of Agriculture, should be retained or abandoned, and on the answer to that question many individual growers believe hang their personal hopes of profit. Actually, the question has already been answered, since the small growers who have been advocating abandonment of the plan had only until June 1 to file the signatures which would be necessary to secure its repeal, but the results will not be known at least for another week or ten days. Big growers who have been fighting the repeal plan tooth and nail will be mightily surprised if their opponents succeeded in getting the necessary 40% of the growers, representing 40% of the prune acreage, to sign their petition for abandonment of the prorate.

Under the prorate plan, inaugurated in 1940 after two or three years of experimentation with other similar regulations, 40% of the crop was declared tonnage-free, 32% went into a stabilization pool, and the remainder went into a surplus-for-relief pool. Small growers see in the present improved conditions the chance for a runaway market in which they hope to sell all they can grow without any government restrictions on prices or quantities for the various classifications established in the prorate. Many other growers, particularly those of foreign extraction, protest that the whole prorate system is too unwieldy and complex.

• **For a Regulated Market**—Growers who support the prorate point out that the 79,000 tons of substandard prunes which were diverted from commercial channels during the past five years under the prorate and its predecessor plans kept the prune industry from utter collapse. Repeal, they insist, would ruin their biggest opportunity for a comeback.

## JAPANESE SELL FARMS

There's been considerable speculation as to what's happening to the 216,000 acres of land on the Pacific Coast vacated by evacuated Japanese. Now the Wartime Civil Control Administration in San Francisco reveals that, as of May 1, some 180,000 acres had been sold or leased, leaving 36,000 acres still available to new operators.

The transfers to non-Japanese owners approximated 85% of acreage originally registered for evacuation in California, Washington, Oregon, and Arizona. About 83% of the 6,500 registered farms have been covered by contract deals under the U. S. Army's program for continuing normal agricultural production in vital defense areas.

California still has available 30,000 acres in Sacramento, Yuba, Tulare, and Los Angeles counties, while Washington has 6,000 acres open in King and Pierce counties, the WCCA revealed.

# FINANCE

## Billions for War

Nation's banks get set to buy all the Treasury bonds that others don't take—a huge job that raises many problems.

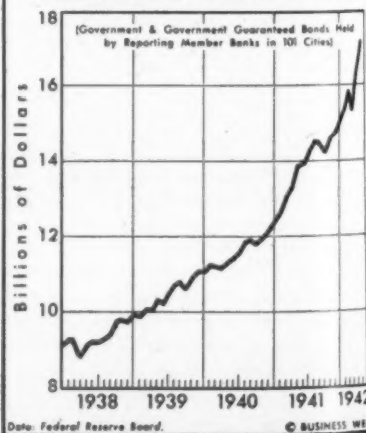
As the Treasury goes into high gear on war financing, the commercial banks are bracing themselves for a fast ride to an unknown destination. Bankers expect the nation's credit structure to change more in the next two years than it did in the whole turbulent decade of the Thirties. Banks will have to finance about half the total cost of the war, by far the largest assignment they have ever taken on.

• **Mounting Totals**—Stupendous job at present is the problem of absorbing the flood of government securities that pour into the market as the Treasury steps up its borrowing program. In the fiscal year ending this month, banks have bought more than \$5,000,000,000 worth of government bonds. Next year they will probably take up a staggering \$30,000,000,000.

In comparison, all member banks of the Federal Reserve System held only \$19,539,000,000 in government securities at the beginning of the year. In 1929 their total investment in governments was \$3,863,000,000. (The 6,619 members of the Federal Reserve System account for all but \$3,500,000,000 of the \$29,000,000,000 total of commercial bank investments in the United States.)

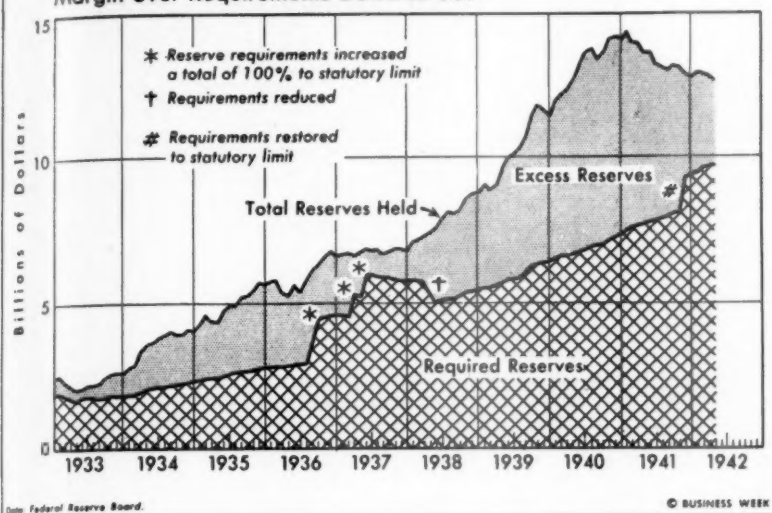
• **Putting Up the Difference**—Size of the banks' investment in government securities will be determined by the difference between government expenditures and the amounts raised from other sources.

## BANKS' BOND BUYING BULWARKS WAR EFFORT



## BANKS' EXCESS RESERVES DWINDLE

Margin over Requirements Down to 30%



Bankers know it's their absolute duty to take any amount the Treasury decides to sell them. This is not only a matter of patriotism. The Treasury and the Reserve banks have enough power to get their way even if the banks should be reluctant.

The present federal budget calls for an outlay of \$77,500,000,000 in the fiscal year ending in June, 1943. Of this, a little over \$28,000,000,000 will be raised by taxation (assuming that Congress adopts substantially the program recommended by the Treasury). Another \$12,000,000,000 will come from sales of war savings bonds, and three or four billions can be borrowed from insurance companies, investment trusts, and other sources. This leaves at least \$30,000,000,000 to come from the commercial banks.

• **Up and Up and Up**—Bankers don't say much about what they expect to develop after next year, possibly because it's a subject they don't like to think about. The odds are that they will have to take up another \$45,000,000,000 in government bonds in the fiscal year 1943-1944. A budget of about \$87,500,000,000 can be expected for that year; taxes will probably produce around \$30,000,000,000, and war savings bonds \$12,000,000,000.

Anything the Treasury can do to increase revenue from other sources will take just that much load off the banks. That's one reason bankers are boosting savings bond sales even though customers withdraw deposits to pay for them.

• **The Public's Part**—All except the most optimistic realize that there's a limit on war bond sales, even on a compulsory basis. At the rate of \$12,000,000,000 a year, these bonds would be taking about 10% of national income, and even if this amount could be doubled the banks

would still have to take about \$18,000,000,000 worth of governments in the next fiscal year. With war bond sales still running below \$1,000,000,000 a month, the \$12,000,000,000 mark seems hopeful enough for any voluntary program.

By the end of next year, then, banks expect around \$50,000,000,000 or about two-thirds of their total loans and in-

vestments, to be in governments. Of course, governments are the safest kind of investment, and banks are not much worried about putting all their eggs in the Treasury's basket, even at very low interest rates. What does frighten them is the prospect of inflation.

• **Billions on Billions**—If the Treasury sells \$30,000,000,000 worth of securities to the banks, then spends the money, it will add that much purchasing power to the total of deposits now on tap for the public to use. Total deposits for all banks at the end of 1941 were \$70,792,000,000 (excluding mutual savings banks they were \$60,267,000,000). It makes banks uneasy to compare this figure with the deficit that the budget calls for.

For many years after 1929, people weren't spending money and bank deposits turned over rather slowly. Since 1933, deposits have been climbing; it hasn't required very active turnover to support a fair volume of business. Consequently, deposit "velocity" went down and down until the start of 1941.

• **Velocity Picks Up**—Throughout 1941, however, the trend was toward more active deposits (BW—Jan. 3'42, p13). Meanwhile, total deposits of commercial banks were mounting to their new peak above \$60,000,000,000. Now deposits are heading for \$90,000,000,000, and velocity of turnover hasn't changed much. In other words, the country is

*This advertisement appears as a matter of record only and is under no circumstances to be construed as an offering of these securities for sale, or as a solicitation of an offer to buy any of such securities. The offering of each security is made only by the applicable Prospectus.*

## Philip Morris & Co. Ltd., Incorporated

\$6,000,000

Twenty Year 3% Debentures, due May 1, 1962

Dated May 1, 1942

Price 102% and accrued interest

49,666 Shares

Cumulative Preferred Stock, 4½% Series

Par Value \$100 per Share

(Dividends cumulative from June 1, 1942)

Price \$102 per Share

Certain of the above-mentioned shares of Cumulative Preferred Stock, 4½% Series have been subscribed for by holders of Common Stock of the Company or their assigns, or have been sold by the several Underwriters during the life of the Subscription Warrants. The remaining 17,609 shares have been publicly offered by certain of the Underwriters and a group of Selected Dealers.

*Copies of the applicable Prospectus may be obtained in any State from such of the several Underwriters, including the undersigned, as may lawfully offer the securities in such State.*

Lehman Brothers

Glore, Forgan & Co.

May 28, 1942.

# 97

YEARS OF  
COMMERCIAL BANKING



Now financing  
extensive  
war production



THE  
NATIONAL CITY BANK  
OF CLEVELAND

EUCLID AT EAST SIXTH  
TERMINAL TOWER BUILDING



MEMBER FEDERAL  
DEPOSIT INSURANCE CORPORATION

## FACT!

Fast, Accurate, Complete, Terse—these 4 make Washington Bulletin in Business Week the most useful reporting of Washington news.



"Cover-to-cover, the facts indicate it is one of the most USEFUL magazines in America today. Wherever you find it, you find a business man ... well informed."

# THE MARKETS

It takes volume to make a trend in stock prices really significant, and volume has been conspicuously absent in recent trading on the Big Board. Still, the market has been groping its way upward for more than a month now.

The average of 50 industrials has gained about eight points from its Apr. 28 low of 75.2, and while the rails have not confirmed this advance, they don't contradict it. Evidently a restrained optimism has replaced the gloominess that settled on Wall Street early this year.

• **Real or Technical?**—Undoubtedly part of the rise has been only a technical adjustment. The market slid downward for the better part of four months without stopping for a breather, and by the end of April a secondary rally was overdue. Since then, however, there has been plenty of time to bring up the bubbles, and the persistent creeping rise might indicate something more fundamental than mere adjustment.

Principal reasons for the slump earlier this year were depressing war news and the prospect of a tax program which would cut deeply into corporate earnings. Apparently the market has revalued these factors and is wondering if it discounted prices too heavily.

• **Better News, If Negative**—The delay in Hitler's much-advertised spring offensive has encouraged many traders who expected the Germans to be well on the way to Vladivostok by now. The attitude of the House Ways and Means Committee has somewhat reassured those who feared the worst in taxation.

When President Roosevelt went out of his way to explode rumors of an early peace, the market held steady, indicating that during the slump it had expected something even worse than the long, hard war he predicted. Inciden-

tally, this more optimistic attitude toward the war helps explain why rail averages don't confirm the advance in industrials. Early peace would mean a quick drop in railroad traffic and a violent contraction of earnings.

• **Still Inconclusive**—All this is encouraging, but the cautious optimism now prevailing is still a long way from the lusty confidence necessary to back a real bull market. Trading for the last month has been so light that a few small orders can determine the course of the averages.

During May the daily average of sales was only 289,163 and early days of June showed the same wary inactivity. The steady rise in prices indicates that traders are generally more cheerful, but the slump in volume shows that they are not yet willing to risk much on their new estimates.

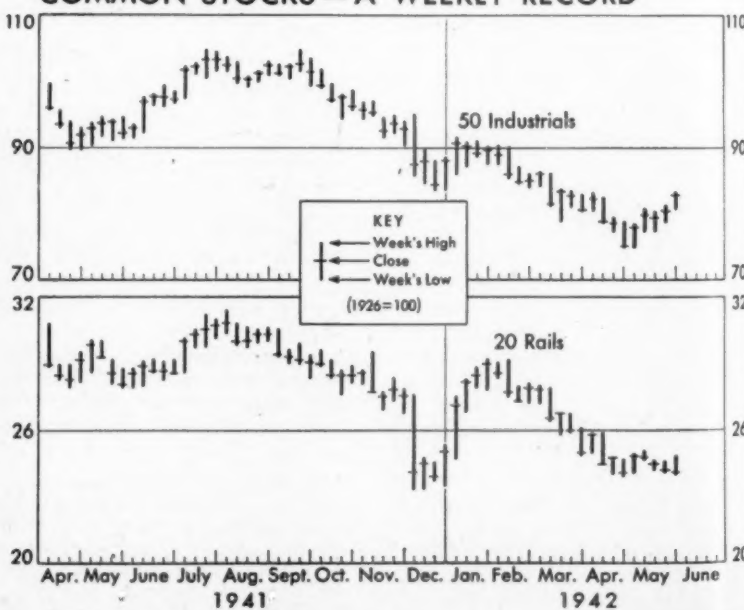
• **Dividends Watched**—If the war and tax situation produce no startling developments, dividend news will probably be one of the biggest factors in determining where the market goes from here. Traders have been unusually responsive to dividend decisions recently (BW—May 23'42, p90).

## Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
<b>Stocks</b>				
Industrial ...	82.8	80.6	78.2	93.0
Railroad ....	24.1	24.2	24.9	28.6
Utility .....	30.3	30.1	29.8	44.0
<b>Bonds</b>				
Industrial ...	107.8	107.9	106.8	102.0
Railroad ....	82.8	85.5	88.4	88.3
Utility .....	102.4	102.4	102.4	106.1
U. S. Govt. ...	110.9	110.9	110.6	111.3

Data: Standard & Poor's Corp. except for government bonds which are from the Federal Reserve Bank of New York.

## COMMON STOCKS—A WEEKLY RECORD



Data: Standard & Poor's Corp.

© BUSINESS WEEK



trying to use its ever-increasing deposit total just as often as ever at a time when volume of goods to be bought is being pinched. That, in short, is the way government financing is building the base for a credit inflation that could be drastic if price and quantity curbs on consumers' goods failed to hold.

Adding \$30,000,000,000 to deposit liabilities also will put a heavy strain on member bank reserves, but bankers expect the Federal Reserve Board to take care of this in one way or another. Some banks, particularly in New York, already feel a pinch in reserves and have slowed down on bond purchases. Excess reserves for all member banks dropped to \$2,540,000,000 on May 27, the lowest level since 1938; excess reserves of New York banks dipped to \$520,000,000.

• **Potential Expansion**—Theoretically the present reserves would support an expansion of about \$12,000,000,000 in net demand deposits, but banks like a large surplus. Experts believe that \$2,000,000,000 is about as low as excess reserves can go without touching off wholesale liquidation of investments by banks desiring to keep comfortable balances.

Banks are confident the government will provide them with all the reserves they need to cover their bond purchases. Simplest way to ease the situation would be to reduce reserve requirements, which the Federal Reserve Board has statutory power to cut to half the present level. This would increase excess reserves by nearly \$5,000,000,000, and at the same time raise the amount of deposits that could be extended on the basis of each dollar of reserves.

• **A Doubtful Expedient**—Federal Reserve banks could also purchase securities in the open market, providing member banks with the federal funds which serve as reserves. The tremendous volume of current financing, however, makes the government bond market touchy, and Reserve bank operations might upset the balance. Bankers think that lowering reserve requirements would be simpler and more effective.

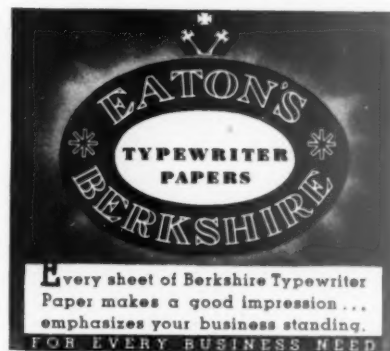
The question of reserve policy presents the Treasury and the Federal Reserve Board with an awkward dilemma. Ordinarily in a time of rising purchasing power and decreasing supply of goods, control authorities would clamp down restrictions designed to raise the rate of interest and head off the impending inflation. This was the policy followed in 1937, when the deflation machinery got out of hand and started a recession.

• **Treasury Needs Cheap Money**—Today, however, the Treasury doesn't dare raise interest rates because that would bring an enormous increase in the cost of the debt it is incurring. To take advantage of the cheap money rates, it has to give up the idea of using money market controls to damp down inflation.

The excess-reserve situation is also an

annoying problem to control authorities. Before the Thirties, no bank wanted excess reserves. Banks employed their resources to the hilt, and when they felt a pinch went to the Reserve banks to hock assets eligible for rediscounting.

• **New Policy Solidifies**—During the Thirties, however, banks decided that a substantial surplus of reserves was a comfortable thing to have since they couldn't find paying investments for all their funds anyhow. In 1937 they demonstrated this changed philosophy by liquidating assets rather than give up excess reserves. Now that the custom is established, control authorities have to accept it, but it hampers them by putting a



# 45 Billion

## GEAR TOOTH CONTACTS (500,000 PER MINUTE)

*.. without measurable wear*

A prominent manufacturer added "dag" colloidal graphite to his grease for a test involving 1500 hours of running time and 500,000 gear tooth contacts per minute. *No measurable wear* was detected . . . Subsequent performance of the test grease *without* "Oildag" (colloidal graphite in oil) was unsatisfactory . . . Send for comprehensive report by their test engineer and bulletin No. 220A

**ACHESON COLLOIDS CORPORATION**  
PORT HURON, MICHIGAN

"Dag" and "Oildag" are registered trade-marks of A. C. C.



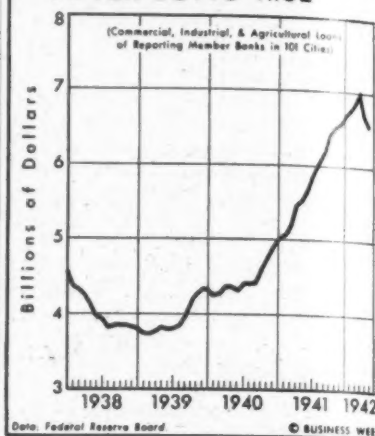
The electric-furnace graphite used in "dag" products is made in U. S. A.

# ADVERTISERS IN THIS ISSUE

Business Week—June 6, 1942

ACHESON COLLOIDS CORP. .... 73	HARTFORD STEAM BOILER INSPECTION & INS. CO. .... 2
Agency—HYATT EBY	Agency—N. W. AYER & SON, INC.
AIR REDUCTION SALES CO. .... 63	A. W. HECKER ..... 35
Agency—G. M. BARFORD CO.	Agency—FULLER & SMITH & ROSS, INC.
ALUMINUM COMPANY OF AMERICA ..... 9	HERCULES POWDER CO., INC. .... 38, 39
Agency—FULLER & SMITH & ROSS, INC.	Agency—FULLER & SMITH & ROSS, INC.
AMERICAN LUMBER & TREATING CO. .... 46	THE HINDE & DAUCH PAPER CO. .... 28
Agency—FULLER & SMITH & ROSS, INC.	Agency—HOWARD SWINE ADVERTISING AGENCY
AMERICAN PLYWOOD CORP. .... 44	INLAND STEEL CO. .... 21
Agency—L. M. NOHR CO.	IRON FIREMAN MANUFACTURING CO. .... 60
THE AMERICAN PULLEY CO. .... 27	Agency—JOSEPH R. GREENE CO.
Agency—THE AITKEN-KINNETT CO.	LEHMAN BROTHERS ..... 71
ANCHOR POST FENCE CO. .... 54	Agency—J. WALTER THOMPSON CO.
Agency—VAN SANT, DUGDALE & CO., INC.	THE LIQUIDOMETER CORP. .... 50
AUTOMATIC ALARMS, INC. .... 58	Agency—LUCERNA CO., INC.
Agency—WEARSTLER ADVERTISING, INC.	MCGRAW-HILL PUBLISHING CO., INC. .... 42, 43
BANKERS TRUST CO. .... 1	METROPOLITAN LIFE INSURANCE CO. .... 23
Agency—COWAN & DINGLES, INC.	Agency—YOUNG & RUBICAM, INC.
BARBER-COLMAN CO. .... 56	MONSANTO CHEMICAL CO. .... 4th Cover
Agency—CUMMINGS, BRAND & McPHERSON	Agency—GARDNER ADVERTISING CO.
BOHN ALUMINUM AND BRASS CO. .... 26	THE NATIONAL CITY BANK OF CLEVELAND ..... 72
Agency—SIMMER-KELLER, INC.	Agency—McCANN-ERICKSON, INC.
BRADLEY WASHFOUNTAIN CO. .... 52	NORFOLK & WESTERN RAILWAY CO. .... 41
Agency—KIRKGAARDER-DREW	Agency—HOUCK & CO.
CARBIDE AND CARBON CHEMICALS CORP. .... 2nd Cover	NORTON CO. .... 47
Agency—J. M. MATHES, INC.	Agency—JOHN W. ODLEN CO., INC.
CENTURY ELECTRIC CO. .... 45	OWENS-ILLINOIS GLASS CO. .... 37
Agency—OAKLEIGH R. FRENCH & ASSOCIATES	Agency—D'ARCY ADVERTISING CO., INC.
C. P. CLARE & CO. .... 62	PHILLIPS SCREW MANUFACTURERS ..... 29
Agency—J. B. HAMILTON ADVERTISING AGENCY	Agency—JAMES THOMAS CHIRBURG CO.
CLUES ..... 62	ALBERT PICK CO., INC. .... 75
COMBUSTION ENGINEERING CO., INC. .... 61	Agency—EARLE LUDWIN, INC.
Agency—G. M. BARFORD CO.	PRUDENTIAL INSURANCE CO. OF AMERICA ..... 50
CONNECTICUT GENERAL LIFE INSURANCE CO. .... 58	Agency—CHCIL & PERRY, INC.
Agency—EDWARD W. ROBOTHAM & CO.	THE RAULAND CORP. .... 70
CONTINENTAL MOTORS CORP. .... 45	Agency—GEORGE BRODIE ADVERTISING
Agency—WALLACE-LINDEMAN, INC.	REMINGTON RAND INC. .... 51
CORNING GLASS WORKS ..... 25	Agency—LEFFORD ADVERTISING AGENCY, INC.
Agency—BATTEN, BARTON, DURSTINE & OSBORN, INC.	RESEARCH INSTITUTE OF AMERICA ..... 3
THE DELTA MANUFACTURING CO. .... 67	Agency—SCHWAB AND BEATTY, INC.
Agency—IRVING J. ROSENBLUM ADVERTISING CO.	ROBBINS & MYERS SALES, INC. .... 55
DOUGLAS FIR PLYWOOD ASSOCIATION ..... 49	Agency—ERWIN, WABEY & CO., INC.
Agency—McCANN-ERICKSON, INC.	ROYAL BANK OF CANADA ..... 44
DOW CHEMICAL CO. .... 40	Agency—ALBERT FRANK GUENTHER LAW, INC.
Agency—McMANUS, JOHN & ADAMS, INC.	SHAW BOX CRANE & HOIST DIVISION ..... 52
DRY-ZERO CORP. .... 49	MANNING, MAXWELL & MOORE, INC.
Agency—THE FENSHOLT CO.	Agency—BRIGGS & VARLEY, INC.
EATON PAPER CORP. .... 73	TAYLOR INSTRUMENT COS. .... 59
Agency—THE GREY ADVERTISING, INC.	Agency—BATTEN, BARTON, DURSTINE & OSBORN, INC.
ERIE RESISTOR CORP. .... 56	UNDERWOOD ELLIOTT FISHER CO. .... 34
Agency—W. S. HILL CO., INC.	Agency—MARSHALL & PRATT, INC.
THE FAFNIR BEARING CO. .... 3rd Cover	UNION CARBIDE AND CARBON CORP. .... 2nd Cover
Agency—HORTON-NOTES CO.	Agency—J. M. MATHES, INC.
FAIRBANKS, MORSE & CO. .... 36	UNION PACIFIC RAILROAD ..... 48
Agency—HENRI HURRY & McDONALD, INC.	Agency—THE CAPLES CO.
GEARE-MARSTON, INC. .... 4	UNITED AIRCRAFT CORP. .... 6
Agency—GEARE-MARSTON, INC.	Agency—PLATT-FORBER, INC.
GENERAL ELECTRIC CO. .... 12	UNITED GAS PIPE LINE CO. .... 53
Agency—FOSTER & DAVIES, INC.	Agency—BOZELL & JACOBS, INC.
GENERAL MOTORS CORP. .... 33	WARREN WEBSTER & CO. .... 8
Agency—ARTHUR KIDDER, INC.	Agency—WILLIAM JENKINS ADVERTISING
GENERAL TIRE & RUBBER CO. .... 30, 31	THE WASHINGTON POST ..... 66
Agency—D'ARCY ADVERTISING CO., INC.	Agency—EDWIN LEWIS RYAN, INC.
THE GLOBE-WERNICKE CO. .... 69	WESTINGHOUSE ELECTRIC & MFG. CO. .... 10
AGENCY—PLATT-FORBER, INC.	Agency—FULLER & SMITH & ROSS, INC.
GLYCO PRODUCTS CO., INC. .... 64	THE WHITE MOTOR CO. .... 57
Agency—PLATT-FORBER, INC.	Agency—D'ARCY ADVERTISING CO., INC.

## BUSINESS LOANS DIP AFTER LONG RISE



bumper between their activities and the effects on the banks.

By holding out for an easy reserve position, the banks leave themselves free to advance as much commercial credit as they wish, but most think they will be doing well if they keep the loan total from shrinking. Commercial loans for reporting member banks in 101 leading cities have been dropping steadily since the Mar. 18 peak of \$7,035,000,000 (BW—May 16 '42, p. 76). Last week they stood at \$6,557,000,000. Banks are waiting to see whether the rise in war production will bring enough new borrowing to offset the contraction of civilian industries.

● **Record of War Loans**—A recent survey by the American Bankers Association, covering 500 of the country's largest banks, shows a 40% increase in loans for war production during the first quarter of this year. This compares with a 26% rise in the final quarter of 1941. Banks are also hoping that the new system of guaranteed loans to contractors will bring them business formerly handled by government departments (BW—Apr. 18 '42, p. 77).

Even if loans do taper off, banks will come out of the war with the largest total of earning assets in their history. Most bankers, however, are pessimistic about income prospects. They point out that most of their portfolio will consist of governments which bring extremely low interest. Moreover, all new government securities are subject to income and excess profits taxes; old government issues are subject to the surtax which will probably rise steeply this year.

● **Other Profit Factors**—Income from business loans will probably rise little, if any, and may even decline. Government agencies are providing cheap credit to contractors and the banks must meet their competition if they want the business. Gross income from new securities would be enough to offset this, but what happens to the net depends on taxes.

# THE TRADING POST

## The Story of Du Pont

From time to time I have noted here the newly awakened interest of Americans in the history of their business organizations. Business biographies, either as elaborate volumes or as less pretentious brochures, have appeared during recent years in ever larger number and higher quality.

All this is a heartening symptom of a new awareness on the part of both the people in general and the business executive in particular. The former are increasingly conscious of our industries as American institutions; the latter recognizes more clearly his obligation to understand and interpret his business as an American institution.

One of the most recent of these business biographies is William S. Dutton's "Du Pont" (Charles Scribner's Sons). It is the story of the Du Pont family and the Du Pont industries. It is presented to us as "a story of men and goods, of peace and war, of vision and venture."

But it is more even than that. It is a tale of romance and adventure, opening in a tiny French village only eight years before the Terror was loosed. From the knitting women of the Place de la Concorde to the worker in rayon, cellophane, and nylon is a far cry. Yet the saga of this family marches directly from the shadow of the guillotine, through the aisles of vast modern factories into millions of American homes.

And over and over again, through the length of that march, we encounter many chapters, each brilliant in its own right, yet no more than an episode in the Du Pont drama.

\* \* \*

The birth of the gunpowder industry in the fledgling American Republic, the first test of war in 1812, heroic efforts to supply the Union with powder during the War between the States, the hazardous and revolutionary application of high explosives to the arts of peace, the outbreak of World War with its unprecedented demands for ammunition, first from the Allies and later from our own country, the fantastic explosion of the explosives industry into the infinite space of modern chemistry with its wealth of dyestuffs, plastics, photographic film, disinfectants, rayon, cellophane, synthetic rubber, nylon, and all the rest—any one of these episodes alone rates high place as industrial romance. Yet all of them together are but incidents in a century and a half of Du Pont initiative, enterprise, and tenacity.

It was but natural that Eleuthère Irénée du Pont de Nemours, youthful assistant to the great Lavoisier in the

French government powder works at Essone, should have been gunpowder conscious. It was but natural too that the young emigrant, out hunting with a French-American friend near Wilmington, should have snorted at the powder he bought from a local merchant for his day's sport. And as he recalled Lavoisier's high standards and efficient methods, to contrast them with the high price and low quality of this powder made in the new country, young Du Pont all unconsciously was staking out a new American industrial empire.

To understand the sequel we must couple with this the essential rôle of gunpowder in the life of the pioneer, blazing his way from frontier to frontier. To his rifle he looked for food and raiment, with gunpowder in bulk he cleared the way for the plow, the ox-cart, and later the locomotive. From those precarious but promising beginnings in 1802, the Du Pont story has been one of consistent application by men born to their mission.

\* \* \*

In Mr. Dutton's narrative the business executive will find several chapters of more than historical interest. One poignant passage, describing Irénée du Pont's experience with his first mill, will strike a responsive chord with many:

In France, his father had reported the powder company's successful start with eloquent—too eloquent—enthusiasm. The result was that the European stockholders were already demanding their share of the profits, which as yet existed only on paper. The mills had far exceeded the original estimates of cost, part of the capital was still unpaid, money for powder sold could not be collected short of six months, whereas the workmen expected their wages monthly and the banks were meticulous about their interest dates.

Other chapters of practical business interest describe the federal proceedings against the Gunpowder Trade Association for violation of the Sherman Act, the classic legal battle of Du Pont vs. Du Pont, and the expansion of the Du Ponts into the broad field of chemical products. Significant too is the chapter entitled "Management," which surveys in considerable detail the Du Pont management policies and methods.

Appropriately enough, what with the thread of venture and adventure running through his story, Mr. Dutton closes his final chapter with a quotation from Lamot du Pont: "More capital—the venture capital that blazes new trails, and that is distinct from credit, which shifts from venture—has been the requisite means toward all business progress since civilization began."

This, asserts the author, is the most basic of all Du Pont policies. W.C.



## SOLVE THE *Lunchtime* bottleneck WITH PIX EQUIPMENT

Never before have minutes been as precious, nor productive efficiency as vital to our way of life. That's why war-busy America turns to Pick for equipment to feed workers right in the plant . . . to reduce interruptions that slow up production.

With a Pix Plant Cafeteria, lunch shifts can be staggered to fit production schedules. Short lunch periods will still leave time for relaxation. And less gate supervision will be needed where men stay in the plant until the day is done. Pick has built cafeterias for plants whose names you know\*—Pick Engineers have designed feeding facilities to fit every need and every budget.

Whatever your employee feeding problem may be, you will profit by suggestions from a Pick Engineer—without obligation. Send for illustrated 56-page booklet.

ALBERT PICK CO., INC., 2159 Pershing Road, Chicago  
America's Leading Food Service Equipment House

## FEEDING EQUIPMENT FOR WAR INDUSTRIES



\*Due to wartime regulations, we cannot publish names of recent Pick installations.



# THE TREND

## NEEDED: A TRIPLE PLAY ON LABOR

The makers of our wartime labor policy are only just beginning to see that the three fundamental problems with which they must struggle are interrelated and interdependent. A fully effective formula for solving those problems would simultaneously (1) settle disputes before they developed into strikes; (2) hold down workers' income so that the ratio of purchasing power to purchasable goods did not grow more disproportionate and widen the inflationary gap; and (3) distribute manpower in such a fashion that industries feeding the war machine would have an adequate labor supply. Right now, we are being tossed on the horns of a dilemma.

• If men were machines, the War Manpower Commission could simply list the specifications and capacities of each, fix a price for use, and allot them to mines, factories, farms, and offices on a priority basis. And ultimately, if the labor force is to be utilized at optimum, manpower will be handled essentially that way, whatever soft words we use to describe the system.

Thus far we have directed most of our attention to Labor Problem No. 1 and, for the present, at least, it has been solved. The National War Labor Board and ancillary agencies have settled industrial disputes while they were still in the "talk stage." But the board has, for the most part, made management bear the incidence of peace. NWLB has induced management to buy off conflict by granting wage increases and union security contracts. It remains to be seen whether the no-strike pledge of the unions will be as scrupulously observed now that the board has promised to limit wage awards to fractional cost-of-living adjustments and advances bringing a firm's substandard rates up to standard.

• If the board can keep its promise without provoking strikes, which would make Problem No. 1 all-important again, it will have made a small beginning on Problem No. 2. But even though its jurisdiction be extended to all union-management wage discussions (it now acts in less than 10% of such cases) and its rule against pay boosts of any description, the \$1,500,000,000 a month in industrial wages which is now cascading into purchasing power will be modest in comparison with manufacturing payrolls a year, or even six months, hence.

For—and this is where the three problems merge into one—the flood of that stream cannot be dammed by freezing wage rates at their present levels. Such action will only institutionalize the labor pirating which now goes on. The employer who has his wages higher than another on the date of the freeze will be assured of an abundant labor supply at the expense of other firms which draw from the same labor market. The problem of channeling labor into the most necessary jobs—Problem No. 3—will be left unsolved.

Setting maximum wage rates, industry by industry, as

the Wage-Hour Division now sets minimums would help a little. But it is a practical certainty that such industry maximums would be set at highest going levels. Millions of workers would have their wages increased under such an industry stabilization plan. And thus the inflationary spiral—Problem No. 2—would overwhelm us.

• If wages were fixed below peak levels, some workers would have to take cuts, and cuts in a period of rising prices would mean strikes, slowdowns and lower output—Problem No. 1 with a vengeance.

Even if it were possible to stabilize wages at prevailing industry averages instead of highs, and not provoke strikes, higher worker incomes are assured simply by the growth of the war industries. Expansion of the converted auto industry, of shipbuilding, of electrical manufacturing—where average hourly earnings are respectively \$1.13, \$1.07, and 90¢—will draw workers from employment in retail trade (59¢ an hour), clothing manufacturing (63¢) and from schools, kitchens, and farms where money income has been negligible. It is, in fact, reasonable to assume that every new job placement in industry during this period will be at an income level higher than that which the new employee has left.

If there were no inflation problem to worry about, the general movement of labor from lower-paid non-war industries into war work could be considered an unmixed blessing so far. The higher-income incentive has, in effect, lifted manpower to higher levels of national usefulness. But labor's trek from industry to industry in quest of higher earnings takes no account of war needs once it has made the first big stride from civilian to war-goods employment.

Thus in the Illinois-Indiana industrial area there is an alarming movement of steel labor into building construction. Akron shows a drift of rubber workers into nearby aircraft plants. Cleveland aluminum workers are seeking jobs in suburban machine-tool plants. Average hourly wage differentials in these pairs of competing industries are, in the order named, 18¢, 6¢, and 5¢. And it cannot be contended that wage standards are an index to an industry's strategic importance in the war; only military planning can provide rankings which will set machine tools above aluminum or construction above steel. The flow of raw materials is being directed by these rankings but the flow of labor moves in unplanned channels.

• Planning that movement without either buying it with an inflation or precipitating strikes is now the biggest and most important job on the domestic front. Before Paul McNutt and his War Manpower Commission can get it done, the U. S. employer and worker will be regimented far beyond anything they have yet experienced.

The Editors of Business Week

help  
ustry  
lions  
such  
onary

rkers  
ising  
out-

avail-  
voke  
y the  
erted  
uring  
1.13,  
nt in  
(63¢)  
y in-  
le to  
uring  
that

the  
ur in-  
mixed  
effect,  
ness.  
st of  
t has  
em-

is an  
struc-  
earby  
eking  
ourly  
stries  
cannot  
n in-  
ilitary  
chine  
The  
kings

with  
t and  
Paul  
get it  
ented

Week  
1942

WEEK  
AGO

WEEK  
AGO

SINCE  
WEEK  
DEX